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DIESEL RAILWAY TRACTION

The June issue of this Railway Gazette *publication, illustrating and describing developments in Diesel Railway Traction, will be ready on June 1, price 2s.*

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THE RAILWAY GAZETTE
33, TOTHILL STREET, WESTMINSTER, S.W.1.

A Missing £16,000,000

In our May 7 issue we drew attention to the report of the Comptroller & Auditor General on the Civil Appropriation Accounts and to the fact that in that document reference was made to a sum of £16,000,000 which was part of the net loss to the Exchequer of £59,700,000 for 1947, and which arose in respect to an adjustment covering the whole period of control. In last week's issue we dealt with the White Paper issued by the Ministry of Transport giving estimates of the full revenue, receipts, and expenses, and resultant net revenue of the controlled undertakings for the year ended December 31, 1947. The White Paper showed a deficit on the pooled receipts and expenditure of £16,239,000, which, added to the fixed annual sum payable by the Government to the controlled undertakings of £43,469,000, gives a total cost to the Exchequer of £59,708,000, or practically the same figure as given by the Comptroller & Auditor General. No mention was made in the White Paper of the £16,000,000 adjustment, but clearly this figure must have been included in the 1947 pool account in arriving at the net loss of £59,708,000. But for this adjustment, therefore, the pool receipts would almost have covered expenditure, leaving the Exchequer to find the fixed rental. It is strange, however, that the White Paper does not disclose the purpose and justification for the provision out of public money of such a large sum, which can result only in benefit to the British Transport Commission.

* * * *

Organisation of Socialised Industries

The Labour Party conference at Scarborough gave some time to a resolution on control of nationalised industry, which expressed concern at the system of administration. It urged also that administrators should be chosen from persons of proved ability, who had a sound practical knowledge of the industries, and from among the workers; that the principle of workers' participation in management through trade unions should be firmly adopted in practice; and that special attention should be given to training facilities for administrative trainees. Mr. J. B. Figgins told the conference that complete disillusionment had followed the first wave of enthusiasm among members of the National Union of Railwaymen at the nationalisation of railways. Other speakers said that although legislation had been passed to control certain industries, in most instances it was still in the hands of the wrong people. Mr. Arthur Deakin and Mr. J. Griffiths, replying to the conference, both said that the test for appointments must be capacity for the job, without any political test, and the former also suggested that the Labour movement had not yet all the people of the required capacity or ability.

* * * *

A Transport Bill for Northern Ireland

The reorganisation of transport administration in Northern Ireland, which has been urged for some time, was brought closer by the publication on May 15 of the Transport Bill, the provisions of which are dealt with in a news article this week. It is proposed to set up a Transport Authority having powers to raise money up to £10,000,000 by the issue of Ulster Transport Stock and other means. The existing Road Transport Board is to be dissolved. The only immediate proposal affecting railways is the transfer to the Authority of the Belfast & County Down Railway. It is not made clear what will be the position of the lines in Northern Ireland of the Great Northern Railway, athough the Authority is empowered by arrangement to acquire and/or operate any rail or other undertaking wholly or partly operated in Northern Ireland, or providing transport facilities outside Northern Ireland in connection with transport facilities within Northern Ireland. The Authority also will have power to provide shipping services to and from Ulster, but the position of the former L.M.S.R. services is not defined, neither is it stated whether the Government proposes to take over the former Northern Counties Committee railway system, the present position of which was outlined in our January 16 issue. Meanwhile, opposition to the terms of acquiring the Belfast & County Down Railway continues, and an extraordinary general meeting of the company will be held on June 8 to consider the sale. After opposing such a meeting earlier, the directors now have circularised shareholders asking support for the sale proposals, as being the best possible bargain in the circumstances.

British Participation in European Transport

European transport was the subject of a talk given in the Home Service of the B.B.C. by Brig.-General Sir Osborne Mance recently, the last of a series of three by different speakers on aspects of the Marshall Plan. He emphasised the necessity of renewing pre-war international agreements for through fares, rates, and services on the broadest possible lines, without putting national requirements first, as had been done sometimes in the past. The same point was made earlier by Professor E. R. Hondelink, formerly Director-General of the European Central Inland Transport Organisation, when lecturing at the London School of Economics. Professor Hondelink, as reported in our June 7, 1946, issue, described how the acceleration of services within various countries had not been shared in by international trains, which tended to take a secondary place in the timetables of administrations intent on speeding up their own communications. In his broadcast talk, Sir Osborne Mance spoke of the interest this country has in European transport, particularly now that the train ferries have been restored. He considered that our increasing participation in the transport services of Europe might be one of the most promising lines of approach to effective regional organisation, or, in a wider field, to world organisation.

* * * *

Overseas Railway Traffics

Leopoldina traffics have suffered a setback in recent weeks, showing an aggregate decline of £32,662 in the fortnight ended May 8. In the following week there was a further, though slightly smaller, decline, amounting to £15,052. The company's aggregate for 20 weeks is £205,616 behind the previous year. Great Western of Brazil traffics are maintaining moderate increases, gaining £6,700 in the fortnight ended May 15 and showing an aggregate improvement of £20,700. On the Central Uruguay the result for the week ended May 15 showed a gain of £26,191, but the comparison is made with a period affected by a strike in the previous year. Aggregate figures are down by £56,081. There was a decrease of £2,344 in United of Havana receipts for the same week. It was reported from Havana on May 20 that the Cuban Government had decided to instal supervisors on the system in connection with paying off arrears of wage increases, and to reinstate 43 dismissed employees. The company has been paying off increases imposed by a Presidential Decree early last year, but still owes the men 5 per cent. of the total arrears. With four weeks to go in the financial year, Gold Coast results were £209,132 behind 1946-47 at the end of February, but in that month and January there was a combined advance of £21,939.

* * * *

London's Rush Hour—A National Problem

Visual evidence of the interest now being taken in the London traffic problem at what is known, in current jargon, as a very high level, is given on another page. Readers who have followed the article and correspondence which we have recently published on this subject will share our gratification that the Chairman of the British Transport Commission is alive to the difficulties and discomforts of Londoners on their homeward journey and that a fresh effort is being made to find methods of moving them more expeditiously. Already an improvement in frequency of service on the Central Line has been announced, which will improve conditions in the central area, the "black spot" so far as congestion is concerned. Undoubtedly, however, the West End Stores can make the greatest contribution to relief of the congestion at this stage by agreeing to later closing. Whatever is done by or at the instigation of the transport authorities, however, we question whether this problem has yet reached a high enough level. It needs to go before a body having the knowledge on which to base a policy for London, for control and siting of its population and industry, and having the power, once formulated, to see that such a policy is followed. The problem is national, not regional, affecting directly a quarter of our population and, indirectly, every one of us. It involves decisions which can be taken only by Parliament, but it is to be feared that the situation will have to deteriorate further before the Government can be shocked out of its ostrich-like refusal to deal with the causes rather than the symptoms of the disease.

Industrial Development in the Commonwealth

Some weeks ago Sir George Nelson, Chairman & Managing Director of the English Electric Company, visited South Africa for the opening of a new English Electric works at Benoni on the East Rand, for the manufacture of small electrical plant. On his return he outlined the policy of his board on such matters and said his directors felt that we in this country were under an obligation to pass on to Commonwealth countries the accumulated experience and scientific knowledge acquired in the development of our own economy. Industrial growth in those countries, moreover, would bring about a demand from Britain for heavy machinery which could not be built overseas. South Africa is a country rich in mineral wealth, but it has its problems too, most serious of which at the present time are shortages of materials and skilled labour. Desire to buy British was strong and price was not the ruling factor. What was wanted was an early delivery date, and it was said that the Americans were offering better ones. There had been cases, however, where deliveries could not be effected by the date quoted, and such a policy would prove to be bad business in the long run. His own company, also, was severely handicapped because it could not get the necessary materials and labour, which meant that only 65 per cent. of its production capacity was being used.

* * * *

Travel Concessions for Railway Workers

After negotiations, which have been going on for some time between the Railway Executive and the railway unions, agreement has been reached on representations which had been made by the representatives of the employees on the use of free tickets over the British Railways system. In future, active railway staff who were in service at December 31 last, during 1948 will receive the same number of free tickets on like conditions of issue, but one of these tickets will be available for a journey to any place on the British Railways. Salary and wages staff will be granted free residential travel and this will not be confined to the regions in which the member of the staff is employed; it will not cover travel over the system of the London Transport Executive. The effect of the new arrangement is that conciliation grades and shopmen will receive passes over all lines and not merely over those of their own Region. This will bring them into line with the clerical grades. Moreover, the shop grades are included for the first time in arrangements for free residential travel facilities. It is proposed to examine further the standardisation of free ticket arrangements before the end of this year.

* * * *

Central Line Extension to Hainault

Three more stations will be brought into service on the Central Line of London Transport when the section between Newbury Park and Hainault is opened for passenger traffic on Monday next, May 31. The new section, 1·89 miles in length, has already been in use since December, 1947, when the line was extended from Leytonstone to Woodford and Newbury Park, for running empty stock to and from Hainault depot. The tracks between Newbury Park and Hainault have been re-ballasted, and resignalled on the London Transport two-aspect colour-light system, but with modifications to suit Eastern Region steam goods trains at night. The bringing into service of the line to Hainault completes the electrification of the southern half of the Fairlop Loop. The northern half, from Hainault to Woodford *via* Grange Hill, Chigwell, and Roding Valley, will be completed at the same time as the electrification of the line from Woodford to Loughton, about the end of the present year. In the meantime a shuttle bus service will continue to operate between Hainault and Woodford. The further extension of electrification from Lougnton to Epping is scheduled for the latter part of 1949; preparatory work is now in hand as a result of the recently-received authority to go ahead.

* * * *

Importance of Technologists

A galling experience of recent years has been to see fundamental British scientific discoveries exploited elsewhere and the profit from them lost to this country. The situation suggests that insufficient attention has been given to applied science and the training of technologists. To fill this gap

the Parliamentary & Scientific Committee recommended last year that the universities should co-operate with certain technical colleges, to be known as Colleges of Technology, which should be afforded due status. Strong criticism of the rather cautious attitude adopted by the committee is made in a recent publication of the Institute of Physics on "The Education and Training of Technologists." The report urges that the Colleges of Technology should be new institutions which, in many cases, might be developed from existing colleges. It contends that the desired increase in status can derive only from a broad popular acceptance of their inherent value, which will follow if they are allowed to develop as senior institutions, partners to the universities. The aim should be to cater mainly for full-time three-year students studying for a degree as Bachelor of Technology (B. Tech.), and for post-graduate scientists or technologists. Finance should be from the Exchequer, and local authorities and government, scientific and industrial authorities should be represented on governing boards.

* * * *

Swiss-Built 50-Cycle Locomotive for France

Shortly after publication of the note in our March 26 issue on French experiments with single-phase traction at 50 cycles, it was announced that the French National Railways had placed an order with Swiss builders for a Co-Co locomotive to operate on this frequency at 20,000 V. The mechanical portion will be constructed by the Swiss Locomotive & Machine Works, Winterthur, and the electrical machinery by the Oerlikon company, which, in collaboration with the Research Department of the French National Railways, has developed a 50-cycle motor only slightly heavier than a corresponding one for 1,500 V. d.c. To provide for operation on d.c. lines at 1,500 V., the locomotive will be equipped with a rotary converter giving a single-phase output, although its efficiency in these circumstances will be lower. A special flexible drive on what is known as the floating ring principle has been developed for coupling the six motors to the axles. The locomotive is intended for working goods trains of up to 1,329 tons and passenger trains of up to 590 tons, with a maximum speed of 62½ m.p.h. It will weigh about 112 tons in working order, the load being distributed equally over the six axles. The voltage of 20,000 a.c. is that which was used in electrifying the Höllental line in Germany, now in the French zone of occupation and the scene of the recent French experiments.

* * * *

Railway Capital Equipment

ONE of the major disabilities from which the railways are still suffering arises from the inability in recent years to replace, or even fully to maintain, its capital equipment during the years of Government control of the railways. It was impossible, because of conditions arising from the war, to make available either men or materials for this purpose. The latest accounts of the trust funds, set up under the Railway Control Agreement, show that at the end of last year the amounts standing in the trust funds for deferred maintenance, and which since have been paid over to the British Transport Commission, totalled £151,355,724.

Great efforts were made between the wars to maintain railway equipment at a level which made efficient operation possible, and to this end large sums were spent which might otherwise have been distributed to stockholders. The result of the efforts made by the boards and managements of the railways to maintain the physical condition of their undertakings was reflected in the service which the railways performed during the years of heavy war traffics.

It was never suggested that a sufficiency of funds was available for re-equipment on the scale which the railway administrations would have desired. This was because of the intense competition which the railways were facing in the inter-war years and the poor financial results.

A recent issue of *The Economist*, in an article dealing with "The Importance of Capital," has pointed out that even if savings and investment had been equal to each other before the war, from a national point of view they would still have been far too small. By any test the British economy of the inter-war years was creating far too little capital. It did not maintain its machinery; it was woefully inadequate in scrapping old plant and replacing it by new; much of its transport equipment (both track and rolling stock) was allowed to become very antiquated. Almost the only forms of capital in which there was a rapid rate of replacement and expansion were dwelling houses and electric power equipment. With all the advantages of hindsight, it is easy to see today that there should have been a much greater creation of capital of all kinds in the inter-war decades.

The Economist points out that the economy is now embarrassed by the enormity of its demand for capital. There are the recognised arrears of the war years to be overtaken and the actual damage to be put right. There is also a growing recognition of the hidden arrears that existed in 1939 and of the need to overtake the effects, not merely of six years' preoccupation, but of 20 years' indifference.

So far as the funds set up to provide for arrears of railway maintenance are concerned, it is important to bear in mind that, although the amount of £151,000,000 appears large, it is in fact all related to specific items of maintenance which were deferred during the years of control, and it does not make provision for any backlog as *The Economist* suggests may have arisen in the inter-war years.

* * * *

Freight Rate Making

AS long as railways exist, the system of making freight rates will be a staple subject of controversy among railwaymen, traders, and economists. In Great Britain the Transport Act, 1947, practically put the question aside until the Transport Commission submits "charges schemes" to the Transport Tribunal. There is no such bill in America, where the railways are asking for permanent rate increases to offset the rapid growth of operating costs, and have obtained interim relief on three occasions since October last, but only to the extent of rather more than two-thirds of the advance they sought. The Interstate Commerce Commission regards the case as both a revenue and a rate one; its April award gave the railways about $300 million a year so that they can maintain their lines, but the Commission needs more time to adjust rate relationships—a difficult matter of great importance to U.S.A. commerce.

The difference in circumstances explains why many books are written in America on transport charges. The latest volume to reach us is entitled "New Departures in Freight Rate Making,"* and is based on a series of articles contributed to the *Railway Age* by G. Lloyd Wilson, Professor of Transportation & Public Utilities, University of Pennsylvania. An introductory chapter describes the types of rates in force and the factors which influence the building of a rates structure, such as the value of the goods, the worth of the transport service to senders, and the cost of conveyance. Since 1920 there has been a decided trend towards the general use of tapering mileage on distance scales, which establishes some degree of territorial uniformity in rates.

After stressing the point that carriers, traders, and public regulatory bodies are jointly responsible for fixing equitable and compensatory rates which are fair to all parties and in the paramount public interest, Professor Lloyd Wilson deals with some of the plans for making rates on other than conventional bases. He explains in detail the British machinery for settling agreed charges, and does not find much in the arrangements to criticise. Turning to Canada, he shows how the inauguration of agreed charges by the Transport Act, 1938, has caused a good deal of discontent among the trading community. The principal opposition comes from those who fear the effect of the new basis of rate making on the traffic and receipts of road motor and water carriers. It is difficult to see why this should be so, as the Judicial Committee of the Privy Council decided, in an appeal case, that the Board of Transport Commissioners for Canada had power, before approving an agreed charge, to consider the effect of the proposal on the traffic and revenues of competing carriers.

Whereas in Great Britain agreed charges generally apply to high-class traffic passing in small consignments, a substantial portion of the lumber traffic originating in Western Canada is covered by similar arrangements, as well as between 70 and 80

* Simmons-Boardman Publishing Company, 30, Church Street, New York. Price $3

per cent. of long-haul petroleum products. Another interesting point is that certain U.S.A. railways are parties to charges agreements made by the Canadian railways. Agreed charges are unknown in the States, though a resemblance is borne by rates and fares under Section 22 of the Interstate Commerce Act for federal, state, and municipal governing agencies.

Judging from Professor Lloyd Wilson's chapters on "Rates Conditioned Upon Periodic Volume of Traffic," and on "Multiple-Carload-lot Freight Rates," the Interstate Commerce Commission has cramped the discretion of the U.S.A. railways in quoting exceptional rates to a degree that our railways have not experienced. The Commission has held that the fact of traffic being handled in trainloads cannot by itself justify rates differing from those applying to single wagonloads, though it will not rule out proposals for trainload rates without examining all the circumstances of each case.

On the whole, the new departures in rate making apply to a comparatively small portion of the total traffic passing. Our author sums up his survey in a statement that the method of making rates is less important than their reasonableness, and adds a list of 15 factors which are significant in determining whether rates are fair. We agree with his main proposition, but doubt whether some of the items in his list are not merely of academic interest. As one example, rates should be adjusted, up or down, to changing price levels, costs, and economic conditions which affect carriers' costs or the expenses of the traders concerned. The failure of the rates provisions in the Railways Act, 1921, shows the difficulty of carrying out any periodic revision of charges such as Professor Lloyd Wilson contemplates. Our comments do not, however, detract from the usefulness of his study of novel rates devices, and we hope, with him, that it will foment discussion on the whole subject of transport prices.

* * * *

Organising Unified Transport in East Africa

ON May 1, by an Order and Proclamation issued by the East Africa High Commission with the consent of the Secretary of State for the Colonies, and the approval of the legislatures of the three territories, the Kenya & Uganda Railways & Harbours and the Tanganyika Railways & Ports Services were amalgamated into one system, with the title East African Railways & Harbours (see also our May 7 issue). The higher control and organisation of the combined system is under the East Africa High Commission, and the officer responsible for carrying out the policy of the High Commission is the Commissioner for Transport, Sir Reginald Robins, C.M.G., O.B.E. Mr. A. Dalton, C.B.E., has been appointed Acting General Manager of the East African Railways & Harbours, and Mr. J. R. Farquharson, O.B.E., Acting Deputy General Manager, as reported in the issue referred to above. Parliamentary control will be through the Central Legislative Assembly.

A Transport Advisory Council is to be formed, consisting of the Commissioner for Transport as Chairman, with three members appointed by the High Commission, and two members each appointed by the Kenya, Tanganyika, and Uganda Governments. The council will be responsible for advice on all matters of policy, finance, law, major tariff changes, and co-ordination with other forms of transport.

An early meeting of the council will be called to consider provisional legislation, and proposals for the formation of sub-committees to deal with specific aspects of transport. Later in the year, the council will examine the estimates of revenue and expenditure for 1949, before submission to the Central Legislative Assembly. In connection with sub-committees, the council will be asked to consider the appointment of a Railway Sub-Committee and a Ports Sub-Committtee, each to consist of three members appointed by the Transport Council, and two members each appointed by the Governments of Kenya, Tanganyika, and Uganda. The members of the two sub-committees will not necessarily be the same persons. In addition, it is proposed that each sub-committee shall have the power to co-opt two members with full voting powers when considering questions peculiar to a particular territory or port, in order to ensure proper representation of local interests. It is hoped by these means to avoid over-centralisation.

It is intended also, in the technical organisation, to give the area and district officers the maximum powers to deal with local problems, provided such problems do not impinge on major policy. As soon as possible, comprehensive legislation covering all aspects of transport by railway, inland waterways, railway-owned road transport, and the control and management of ports, will be prepared and submitted to the Central Assembly, and steps will also be taken to devise a tariff and rating structure with common standards of weights, measures, and distances applicable to the whole of the East African Railways & Harbours.

* * * *

Inland Waterways Reorganisation

ON December 22, Sir Cyril Hurcomb, Chairman, British Transport Commission, announced that the terms of the scheme of delegation to the Docks & Inland Waterways Executive had been settled, and on January 1, 2,064 miles of inland waterways were vested in the British Transport Commission. At that time, the organisation of canals and inland waterways into five areas was recognised as a transitional measure, and the Commission now has announced that on May 24, a further stage in the co-ordination of waterways was reached by reducing the number of divisions to four, exclusive of Scotland. The separate organisations inherited from the previous owners will cease to exist and, within each division, the administration will be unified under a divisional waterways officer, responsible to the Executive, at a divisional headquarters office, with branch offices as required. The new divisions will be as follow:—

North-Eastern Division—
- Aire & Calder (with Goole Docks)
- Calder & Hebble
- Sheffield & South Yorkshire and Trent Navigations
- Section of the Grand Union Canal north of Leicester
- Divisional Waterways Officer—Mr. H. B. Emley
- Headquarters—Leeds

North-Western Division—
- Leeds & Liverpool Canal
- Weaver Navigation (including Weston Point Dock)
- Staffordshire & Worcestershire Canal north of Autherley
- Divisional Waterways Officer—Mr. C. M. Marsh
- Headquarters—Northwich*

South Western Division—
- Sharpness & Gloucester Canal (including Sharpness & Gloucester Docks)
- Severn Navigation
- Worcestershire Canal south of Autherley
- Birmingham Canal Navigations west of Birmingham
- Stourbridge Canal
- Divisional Waterways Officer—Mr. A. C. Lisle
- Headquarters—Gloucester

South Eastern Division—
- Grand Union Canal (including Regents Canal Dock), but excluding portion north of Leicester
- Birmingham Canal Navigations east of Birmingham
- Oxford, Coventry and Lee and Stort Navigations
- Divisional Waterways Officer—Mr. C. Saywood
- Headquarters—London

* It is intended to transfer the headquarters to Liverpool at a later date, at present included in the activities delegated to the Railway Executive.

The railway-owned canals, at present included in the activities delegated to the Railway Executive, will be integrated in these four divisions as they are transferred to the Docks & Inland Waterways Executive. For the present, the Caledonian and Crinan Canals, which are administered by the Docks & Inland Waterways Executive, will continue under the existing local arrangements for maintenance and operation. Mr. F. Whyte, with headquarters at Clachnaharry, is the local officer in charge of the Caledonian Canal, and the headquarters of the Crinan Canal is at Ardrishaig, under Mr. W. M. G. Dawson.

* * * *

Are Locomotive Designers Conservative?

THE provocative article by Mr. Kyrle W. Willans, M.I.Mech.E., entitled "The Paget Locomotive and After," which we publish elsewhere in this issue, raises some interesting points, with the author's characteristic outspokenness. Mr. Willans' general charge against locomotive designers is that they have displayed far too much tendency to follow one another, merely contenting themselves with trivial variations, such as the shape of chimneys and splashes, to avoid the accusation of plagiarism.

Few are in a better position than Mr. Willans to utter warnings of this kind to the present generation of locomotive engineers. After a long and varied career, in which he was in his early days associated with the famous high-speed central-valve engines which his father was constructing at Willans & Robinson's Rugby works, he went over to locomotive construction

and held high managerial positions in two very well-known locomotive-building firms. He later turned to oil engines, and it is probably in the last-mentioned field that his name has become best known. His opinions are therefore worthy of serious consideration.

There are, however, several ways in which various improvements, some of them admittedly slight, have been introduced into locomotive design at different times, the cumulative effect of which is quite considerable. This has been particularly true in this country in the last fifteen years or so. Yet the general layout of a steam locomotive remains much the same. But surely this is not merely the result of spinelessness on the part of designers or chief mechanical engineers, but rather because the normal layout happens to be the most convenient. After all, the general layout of a motorcar has not altered materially for many years, in spite of such bright suggestions as putting the engine in the dickey or under the back seat.

On the question of coal consumption, Mr. Willans saves himself by suggesting that there is probably little difference between the locomotive of 1887 and that of today. Yet there is plenty of evidence in the technical press of the increasingly great amount of energy which is being extracted from each pound of coal burned—energy, moreover, which is being used with increasing effectiveness from the viewpoint of mechanical efficiency. There are many locomotives of 1887 vintage, or thereabouts, still in service in Great Britain; unless modified by drastic rebuilding, their coal consumption might well qualify for Mr. Willans' criticism. But this is not to say that they are quite devoid of any redeeming features. In many cases they are simple, reliable machines whose lightness is a great asset in enabling them to operate over lines having severe axle-load restrictions.

Boiler design data are now fairly well circulated to anyone sufficiently interested to obtain them. The American work comes quickly to mind—Lawford Fry's papers, and the bulletins of the Pennsylvania Test Plant—whilst, on the Continent, Chapelon has made some most valuable contributions. Another notable paper, dealing largely with German practice, was given by R. P. Wagner to the Institution of Locomotive Engineers.

Mr. Willans is somewhat hard on chief mechanical engineers in his article. They do not exploit original ideas, yet their individual wishes in matters of detail come in for heavy condemnation. What Mr. Willans really means, of course, is that absurd variations in petty matters, such as the examples he cites, abound; the sameness in general constructional similarity remains. He wants new, and indeed revolutionary ideas to be tried, not merely to be different (people who aspire only to that can keep to their variations of bedded pads on the boiler backplate), but to see if any new principle is worth a trial.

We cannot but agree with him in this general argument; a priceless chance to obtain new information on firebox water legs was thrown away at Derby with the scrapping of the Paget locomotive. Such data might have been very useful to Mr. Bulleid and his staff in connection with the new "Leader" class, in which an attempt is being made to revolutionise firebox construction. Not only that, but the knowledge of how the Paget boiler would behave in comparison with one of normal type would have been of the very highest value.

Mr. Willans' most stimulating suggestions all concern boilers. The Sentinel boilers built for locomotives, were, he says, all on a small scale. Experience in this country with them has shown that the boiler sufficed for light duties, but one wonders how a boiler suitable for moving a 500-ton train over Shap or Beattock would be got into the British loading gauge. Even in Egypt, where in 1932 some very much larger Sentinel-engined locomotives were exported, an ordinary locomotive boiler was provided, despite a somewhat better loading gauge.

With regard to the Le Mont principle of forced circulation for the water legs of a firebox, this idea was very seriously considered by the L.M.S.R. in 1937. There is no doubt that many other equally promising ideas have been carefully weighed by the C.M.E.s' staffs from time to time, but have been laid aside, perhaps regretfully by engineers, only because some overriding economic consideration militated against their adoption. Much as Mr. Willans might wish to see new ideas develop into actual construction, engineers were, till January last, responsible for shareholders' money, and are now answerable for the taxpayers' money, so they must show discrimination.

Why Not Post Office Red?

ELSEWHERE in this issue we publish the official announcement by the Public Relations Officer of the Railway Executive that during the coming Summer, 14 main line and cross-country express services will be worked by locomotives and trains painted in experimental colours. Particulars of these will be found on page 639. The public is invited to express its opinions in letters addressed to Box A, the Railway Executive, 222, Marylebone Road, London, N.W.1. We gather that the idea behind this effort is to gain popularity for British Railways. We regret that the scheme leaves us quite cold. In the long run it is only service that will count. Admittedly there are a number of "railway fans" and "locomotive spotters" whose vanity will be flattered by being asked for their views.

Our experience is that if you ask advice of enough people you have to make up your own mind in the end, because the answers cancel each other out. The exception to this rule would be answers to the question: "Would you like cheaper fares?" It might be well if the Railway Executive studied Aesop's fable of "the old man and the donkey"; for the convenience of those unacquainted with it, it will be found in this week's "Scrap Heap." In the end it is the Railway Executive and the Transport Commission that will have to make the final decision concerning the adoption of "plum and spilt milk" livery or something else for rolling stock and the colour of the engines.

The colours to be exhibited will have no real significance, and, should the livery be one associated with one of the former companies, it will have the effect of perpetuating an old allegiance, which, as we gather from previous announcements, is just what it is wished to avoid. We think the new regime has badly "missed the bus" in not adopting Post Office red. That colour would have some significance. However much one may disagree with nationalisation and regret it, the adoption of "Post Office Red" for the main-line passenger engines (and black for all others) would definitely indicate the new era in "Our Railways." In due course following a change in Government, blue might be substituted for red.

* * * *

Spotlight on "Spotters"

THE London Midland Region of British Railways tackled a potentially awkward situation with resolution and tact in intimating, through Mr. J. B. Dunkley, District Passenger Manager at Birmingham, the reasons which have compelled a local prohibition of "engine spotting" at Tamworth Station, Staffs. Tamworth has afforded an almost unrivalled attraction to youthful locomotive enthusiasts, inasmuch as the Derby—Birmingham—Bristol main line of the Midland Division here crosses over the principal main line of the Western Division at the station itself, so that either by occupying a vantage-point at the south end of the low level platforms, or by rushing from one level to another, the scribbling of engine and shed numbers could be made into a practically continuous process on days of heavy traffic.

So as not to discourage genuine interest in railway working (and bearing in mind, no doubt, the official encouragement which the former L.M.S.R. had given to its legitimate pursuit by the publication of a locomotive handbook "specially arranged for engine spotters"), the management has gone to all reasonable lengths in endeavouring to allow Tamworth Station to continue to be used in this way. Unfortunately, the growth in the numbers of boys assembling there, and the increasing irresponsibility among some of them, have led to the wise if reluctant decision to exclude them from railway premises.

Quoting "instances where the boys have run across the metals or in front of trains, have ridden on slow-moving vehicles, and have indulged in stone-throwing or interfered with the signal-wires," Mr. Dunkley pointed out that "it is extremely difficult to keep these enthusiasts under proper control, especially when the legitimate business of engine-spotting wears thin, and horseplay begins." While the railways naturally appreciate the value of arousing and maintaining an interest in railway working among the younger generation, such interest can be satisfied most profitably through conducted visits of school parties, boys' clubs, and kindred organisations to railway premises.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Reduced Railway Fare Facilities

Physical Laboratories,
University of Manchester,
Manchester 13. May 12

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Your editorial on page 506 of the issue for April 30 (More Reduced Railway Fare Facilities) is surely built on a misunderstanding of human nature.

The very fact of the expense involved in rail travel at the present time is driving more and more travellers to the cheaper bus services. If the road fare to Blackpool is half the rail fare, which is practically the case, your Mancunian will always travel by bus, and drink the difference in Blackpool. What happens in one particular case is repeated country-wide. People are not willing to lay down money for rail fares when some of it could be used for pleasure.

That is the tragedy of the present situation—that a fine railway system is daily losing traffic to unworthy competitors: and the most pressing reason imaginable why comparable fares must be introduced, and kept.

Yours faithfully,
J. H. THORP

A Generous Offer from the U.S.A.

4138 17th Street, San Francisco 14,
California, U.S.A. May 13

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I am enclosing a clipping from the *Saturday Evening Post* that is self-explanatory. I am employed as a switchman by the State Belt Railroad of California, and have worked for various railroads as conductor, brakeman, and switchman. I am what is called here in the States a boomer. My wife is also a boomer; she is at the present time operating an interlocking tower for the Southern Pacific Railway. Now, as we say, here is the pitch.

Could you give me the names of a switchman, brakeman, or a conductor in England who has some children who could use a pail of lard or a pail of honey or some rice—one who needs it. I would like to correspond with these people—some one that is really employed on an English railroad.

Thanking you in advance,
I remain,
HARRY W. BOYD

[The cutting from the *Saturday Evening Post* enclosed, is of an article by Mr. Charles Graves of London, referring to the food shortage in England. We are sure that Mr. Boyd's generous gesture will be highly appreciated, but we cannot repress the apprehension we feel at the response which may be made to his kindly offer.—ED., *R.G.*]

The London Traffic Problem

53, Barrington Court,
Muswell Hill, N.10. May 11

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—It could be assumed from previous correspondence that there might be room on the Western Region's four-line track between London and Reading for the additional suburban services which would be called for by development of residential districts along that line. I believe, however, that it would be impracticable, even with automatic signalling, to run such services without the provision of additional tracks.

The disturbance which would be caused by widening the existing quadruple track hardly could be faced, and it would be preferable to construct independent electric lines from Ealing westwards. The winter timetables for 1946 show that the approximate number of trains of all descriptions booked to run not less than five days a week was as follows:—

Between	Approximate number of trains each way daily
West Ealing and Southall	220
Southall and Slough	210
Slough and Maidenhead	165
Maidenhead and Reading	150
West Ruislip and High Wycombe	70
High Wycombe and Princes Risborough	55

Relief trains, light engines, etc., have to be reckoned with, besides the frequent congestion caused by freight trains waiting to be received into the yards.

The Western Region line between London and Didcot has not the capacity which a four-line railway carrying miscellaneous traffic should have. With the existing arrangement (which would be very difficult to alter) a train cannot be transferred from main to relief or *vice versa* without fouling a third track, and in the case of local passenger trains, necessitating the transfer of passengers and luggage from one platform to another by footbridge or subway.

As regards developments in Buckinghamshire, it appears that quadrupling between West Ruislip and High Wycombe or beyond would not be anything like so difficult or expensive an undertaking as the widening of the London-Reading line to six tracks.

Yours truly,
A. E. BRYANT

Vague Terminology

12, Trinity Road,
Chelmsford, Essex. May 7

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I have by me readings of valve events on L.N.E.R. and S.R. Pacifics. As is well known, the lead in both cases is $\frac{1}{4}$ in., the lap $1\frac{1}{8}$ in., and the travel at 65 per cent. roughly $5\frac{1}{4}$ in. ($5\frac{21}{64}$ in. on the "Merchant Navy" class).

At 15 per cent., a "valve opening" of $\frac{13}{64}$ in. is ascribed to both classes, increased, at 25 per cent., to $\frac{20}{64}$ in. in both cases. I presume that by "valve opening" is meant the maximum opening to steam through the cylinder port, but this would seem surprisingly small ($\frac{1}{5}$ in. and $\frac{1}{3}$ in.) by modern standards.

"Exhaust opening above full port" is given as $\frac{5}{64}$ in. (L.N.E.R.) and $\frac{13}{64}$ in. at 15 per cent.; and $\frac{13}{64}$ in. (L.N.E.R.) and $\frac{20}{64}$ in. at 25 per cent. I take this to mean that the whole port is open to exhaust with the above measurements to spare.

I should like to know whether my reading of this somewhat vague terminology is correct in the case of these Pacific engines.

Yours faithfully,
J. D. MUNNION

[There is no reason to doubt the official figures. A port opening of, say, $\frac{1}{4}$ in. will admit such a quantity of steam into the cylinder as might well surprise our correspondent—especially with a boiler pressure of 250 or 280 lb. per sq. in. behind it. Mr. Munnion may not be clear as to the difference between *valve travel* and *port opening*. The valve must have a long travel to keep the steam boxed in the cylinder for a long period during each stroke, so as to get the maximum benefit from a high ratio of expansion. The travel is naturally many times as large as the port opening. "Exhaust opening above full port" means the over-run of the valve beyond the actual boundary line of the port itself, a feature noticeable at short cut-offs particularly, when the valve must travel far enough (in other words, allow enough time) for the expanded steam to escape without building up too high a back-pressure. The terminology is not vague, but is admittedly typical technical "jargon."—ED., *R.G.*]

Control of War Transport

Pixton, Forest Row,
Sussex. May 13

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In your issue of April 16, which I saw only recently, there is a thought-provoking letter from Colonel Jesper. Anyone who had experience of it in the last war will concede generally that the trio of Transportation, Movement Control, and Sea Transport depended, in the main, for its success on the respective officers, and other ranks, of each branch liking, metaphorically speaking, each other's faces. To some of us that seemed, and still seems, a wobbly foundation on which to build up any major operation; furthermore, whilst in war money seldom matters, nevertheless it is submitted that the method of running the Transportation requirements of the Forces was extravagant both in manpower and costs. It is, perhaps, fair enough to suggest that the former Southern Railway never could have hoped to attain its pitch of efficiency had its railways, its ports, and its shipping sides been controlled by three separate boards of directors, each with its own Chairman. In a case of that kind one would have only to find dissension at the top to see that dissension percolating right down the line, with the inevitable results.

In the very early days of the war, a Director-General was appointed in charge of Movements & Transportation. Had that appointment survived it might have altered the whole course of things: but Movement Control drifted back to its own independent Command, as did Transportation, and the former went ahead with notable efficiency to build up a corps that finished up the war with a remarkable *esprit de corps* throughout its ranks. The Transportation troops, who in effect were the "practical" as opposed to the "paper" workers, did magnificent work, neither seeking glory nor finding it proffered

to them, preferring to find their contentment in the knowledge that their job was always well done.

As Colonel Jesper points out, the present system produces an overlapping in returns, and as Staff Officer in Italy I recall designing a daily return that seemed to suit the requirements of all concerned. I believe it nearly went through but eventually got blocked; but unification of control assuredly would dispense with the keeping of a lot of separate statistics.

Perhaps the point at which the system had its most crucial test was in the docks operating work, where the Army and the Navy—in the form of Sea Transport Officers—were supposed to dovetail in. The theory of what ought to happen and the division of responsibility between the two Services, as written in the text books, may be one thing, whilst practical operation was oftimes another. It happened to be my privilege to command for a period the Docks Operating Troops in Gibraltar, where, for over a year, we operated, I venture to think efficiently, without any S.T.O. organisation. Just before the North African campaign, the S.T.O. organisation turned up, and I do not believe that anybody could claim that the efficiency of the cargo working of that port improved thereafter because of their presence.

It is appreciated that from a ship's husbandry point of view, the S.T.O. organisation had its functions, but in a place like Gibraltar, where the Ministry of War Transport had set up already its own organisation, it was perfectly plain that most of the normal peace-time ships' agents could have done the ships' husbandry work quite satisfactorily. Again, every ship carries its own Chief Officer, who is perfectly capable of looking after his ship's trim and the safe working of his ship's gear in loading and discharging cargo—the normal duties of any Chief Officer.

Pleasant though many of the S.T.O. officers were, their presence on board the ships working cargo was not really vital to the progress of the war. I appreciate that at the main base loading ports, where the planning for loading was done, Sea Transport figures considerably, but, as I see it, in any new set-up its functions best could come under the direct control of the Ministry of War Transport. Colonel Jesper suggests that we might follow the American lines which, under the one control of the Transportation Corps, carried out all the functions of the British trio.

I should like to see the amalgamation of Transportation & Movements, with the Sea Transport duties merged directly into the Ministry of War Transport set-up—in other words, the Sea Transport title would disappear and the entire transport requirements of the forces would be controlled and operated by what might be termed the Royal Army Transportation Corps and the Ministry of War Transport.

Just before being demobilised I submitted to the War Office a memorandum on what seemed to be some of the shortcomings of the present set-up and advocated amalgamation. I do not know how far it had a hearing, but at a recent dinner when questions were invited I did venture to ask whether the old practice was likely to continue, and received an answer that there were no indications that it would discontinue.

If the three identities are going to remain there is only one further point I would like to make. In the last war selected civilians, after a course of but a few weeks, were given an emergency commission in the rank of Captain straight away, to carry out the duties of R.T.O. This was really iniquitously unfair to hundreds of Territorial and Supplementary Reserve officers who had given up their time in peace to training, and who were still probably only lieutenants, and it was equally unfair to officers in other units who, quite rightly, on getting their commission, started from the bottom. This move of Movements to grant Captain's rank straight away caused resentment in many quarters, and it is something that ought never to be repeated.

Yours faithfully,
C. M. SQUAREY

Livery of British Railways

60, Palatine Road,
West Didsbury,
Manchester. May 13

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—As a lifelong amateur enthusiast, I beg to offer a few suggestions in regard to the livery problem at the present time.

We all know that the railways are now national property in this country, and therefore it seems that there is no necessity for tender or tank sides to bear the full title "British Railways."

Why not alter the present capital initials as borne under the grouping system, to suit the various Regions? Thus, L.M.S. could become L.M.R.; L.N.E.R. could become N.E.R., etc. Admittedly, S.R. might occur both in Southern England and in Scotland, but I feel sure that those who can claim Scottish ancestry would be proud to see C.R. once more displayed, north of the Border. Would the Railway Executive consent to the translation of "Scottish" into "Caledonian"?

By this means it should be possible to foster and maintain a healthy competitive spirit between different groups, and to provide at least some of that variety which appeals to all who are interested in and enthusiastic about railway affairs.

At the same time the "national spirit" could be encouraged by a simple armorial bearing or escutcheon displayed above the lettering, *e.g.*, the Royal Arms, or, if a simpler cast is desired, the Lion Rampant (facing forwards, it is to be hoped) on the tender or tank sides above the lettering. The differential colour schemes suggested for various classes of locomotives are much to be commended; and, talking of nationalised transport, if our long-distance buses and heavy lorries can be kept clean and smart, why not our railway rolling stock?

Yours truly,
DAVID R. GOODFELLOW

Publications Received

New Departures in Freight Rate Making. By G. Lloyd Wilson. New York, U.S.A.: Simmons-Boardman Publishing Corporation, 30, Church Street. 9¼ in. × 6¼ in. 150 pp. Price $3.—A section dealing with the basic principles of freight rates forms a preliminary to an analysis of agreed rates and other special charges in Great Britain and Canada. Due comment is made on the merits and failings of various freight rate arrangements and is the subject of an editorial article, which appears elsewhere in this issue.

British Railway Stations Illustrated. Book 3: Kent, Surrey and Sussex. South Merstham, Surrey: The Railway & Technical Press, 185, Nutfield Road. 7½ in. × 4¾ in. 60 pp. Paper covers. Price 3s. net.—This booklet follows the style of the previous two in the series, with 55 full-page illustrations of stations in Kent, Surrey and Sussex (excluding the London area, which is to be dealt with in a later publication). The selection, which dates from 1914 up to 1947, ranges from an exterior view of the ex-L.S.W.R. Windsor & Eton Station, which is actually in the county of Berkshire, to an elevated view of the old Ramsgate Harbour Station, and a lineside view of the derelict Singleton Station on the Chichester—Midhurst line.

Le Trafic des Moyens de Transport et la Conjoncture Economique en Suisse de 1901 à 1944. By Jean-Pierre Baumgartner. Berne, 1947: Editions Stæmpfli & Cie. 9 in. × 6¼ in. 124 pages. Stiff paper covers. Price fr. 7.30.—The author of this study set out to discover how far transport traffics were an indication of the economic situation, and whether fluctuations in them could be forecast.

As the result of an exhaustive investigation undertaken by M. Baumgartner of Swiss figures for railway, tram, air, waterborne and postal traffics between 1901 and 1944, and wide reading on the subject in French, German, and English, it is concluded that traffic trends follow the economic cycle; that traffic figures, particularly for railway freight, are a satisfactory barometer of the economic situation; but that it is impossible to make a rational forecast of traffic trends, except for a period so limited as to be of very little practical value.

These conclusions, as set out in well-documented detail by M. Baumgartner, are not perhaps very startling, but they are of great value today when the interpretation of statistics plays such a large part in controlling the lives of all of us.

Vulcan Magazine. Vol. 1. No. 1. Spring, 1948. Newton-le-Willows, Lancashire: The Vulcan Foundry Limited. 8¼ in. × 5½ in. 24 pp. Illustrated. Paper covers. Price 3d.—A wide selection of topics of interest to employees and outside friends of the Vulcan Foundry Limited is contained in the first edition of this attractive booklet. The activities of social and welfare organisations have received considerable prominence in this edition, so as to make known their respective objectives and functions. Besides these details, there is a number of articles of technical and topical interest, among which are those on Mr. Strachey's visit to the Vulcan Foundry, the "YB" class locomotives recently completed for Burma, and Mr. F. Turner's personal experiences in America, during his recent visit to study diesel traction. The magazine shows high promise of proving its value, not only as a commentary on the various aspects of Vulcan activity, but also in assisting employees to gain a comprehensive picture of their firm's position in the British locomotive industry.

The Scrap Heap

Sixty-One L.M.R. Specials

Of the 61 van horses entered by the London Midland Region in the London Carthorse Parade held in Regent's Park on Whit Monday, May 17, 60 won first prizes and one was awarded a second prize.

* * *

Diversion

A freight train from Hatfield to St. Albans was diverted into a siding on May 21 and after crashing through the buffers came to rest with the engine projecting across a public footpath into a householder's back garden. Both driver and fireman jumped to safety when the driver saw that the points were wrong. The mishap has been attributed to tampering with the points, possibly by children.

Travellers waiting for the early morning train from St. Albans to Hatfield had to travel by bus, as the rear of the derailed train blocked the branch line.

* * *

100 YEARS AGO

From The Railway Times, *May* 27, 1848

HIPPODROME SWEEP OFFICE.
"FORTES FORTUNA JUVAT."

Messrs. GILES and Co., No. 7, Great Turnstile, Lincoln's-Inn, London, will DRAW THE FOLLOWING SWEEPS EARLY IN JUNE.

THE EMPEROR'S VASE.

Subscribers.	First Horse.	Second Horse.	Third Horse.
13 at 42s. ..	£20	£5 0	£2. 6s.
13 at 21s. ..	10	2 10s.	1 3
13 at 10s. 6d.	5	1 5	0 11 6d.

THE ST. LEGER.

Subscribers.	First Horse.	Second Horse.	Third Horse.	Among Starters.	Non Starters.
5,000 at 21s.	£2,500	£1,000	£500	£500	£750
5,000 at 10s. 6d.	1,000 ..	500 ..	300 ..	300 ..	525
5,000 at 5s.	500 ..	200 ..	100 ..	200 ..	250
5,000 at 2s. 6d.	250 ..	100 ..	50 ..	100 ..	125
5,000 at 1s.	100 ..	40 ..	25 ..	40 ..	45

The subscriptions are deposited in the names of trustees, jointly with the proprietors, at their banker's.

In case the subscriptions do not reach the numbers specified, the actual number subscribed will be drawn, and the prizes apportioned accordingly.

Five per cent. will be deducted from the subscriptions to defray expenses.

Post-office Orders, to GILES and Co., payable at Post-office, 62, High Holborn, will be punctually attended to, but stamps not taken in lieu of money.

Assumed names, or initials, may be adopted by subscribers.

Prospectuses forwarded on receipt of a stamp.

Progress

An editorial writer in the *Belfast News-Letter* mourns the easy-going days before 1939 when a Belfast reporter covering a Dublin meeting could put his copy on the last train, saving the trouble of telephoning or wiring, in the assurance that it would arrive at his office within a few hours. Now his copy must be accompanied by Form 29. "There are 10 columns to fill in on Form 29, including those for description, weight or quantity, marks, value, and the names of the consignor, consignee and owner of the goods; but, as a matter of fact, it is of no use filling it in at all, because the Customs man who deals with this end of the business goes off duty at five o'clock, and both form and envelope are left over for examination next day."

* * *

Job Analysis

At Northolt airport the story is told of several high-ranking officials who toured the B.E.A. headquarters to find out how many employees could be made redundant in the interests of economy.

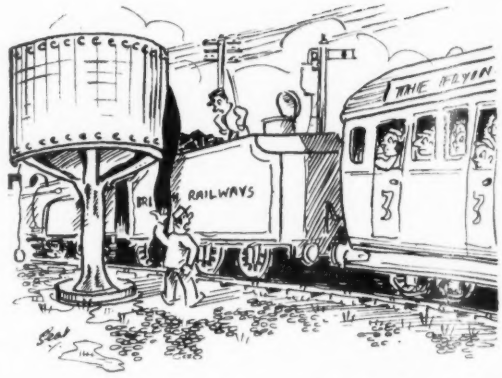
Seeing a man with a file strolling down the corridor, the officials asked him his name. "Smith," he replied.

They asked him in what department he worked. He said that he did not work in any department.

They asked him where he was working. He said: "Nowhere." Finally they asked him what he did. He replied very briefly, "Nothing."

The officials thanked Mr. Smith, took their leave and almost immediately met Mr. Jones. To him they put the same questions and received exactly the same answers.

It was after Mr. Jones had departed that one of the officials turned to the others and observed: "That's the real trouble with this concern—too much duplication." —"*Peterborough*" *in* "*The Daily Telegraph*."



"... *Sorry, mate! 'commercial' only* ..."

* * *

Trying to Please Everybody

A Miller and his son were driving their Ass to a neighbouring fair to sell him. They had not gone far when they met with a group of women collected round a well, talking and laughing. "Look there," cried one of them, "did ever you see such fellows, to be trudging along the road on foot, when they might ride?"

The old man hearing this quickly made his son mount the Ass, and continued to walk along merrily by his side. Presently they came up to a group of old men in earnest debate. "There," said one of them, "it proves what I was a-saying. What respect is shown to old age in these days? Do you see that idle lad riding while his old father has to walk? Get down, you young scapegrace, and let the old man rest his weary limbs."

Upon this the old man made his son dismount, and got up himself. In this manner they had not proceeded far when they met a company of women and children; "Why, you lazy old fellow," cried several tongues at once, "how can you ride upon the beast, while that poor little lad there can hardly keep pace by the side of you?"

The good-natured miller immediately took up his son behind him. They had now almost reached the Town. "Pray, honest friend," said a citizen, "is that Ass your own?" "Yes," says the old man. "O, one would not have thought so," said the other, "by the way you load him. Why, you two fellows are better able to carry the poor beast than he you."

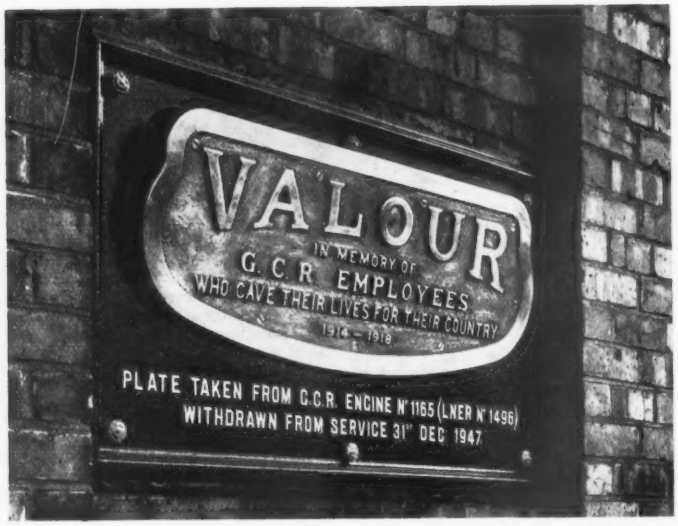
"Anything to please you," said the old man; "we can but try." So, alighting with his son, they tied the legs of the Ass together, and by the help of a pole endeavoured to carry him on their shoulders over a bridge near the entrance to the Town.

This entertaining sight brought the people in crowds to laugh at it; till the Ass, not liking the noise, nor the strange handling that he was subject to, broke the cords that bound him, and, tumbling off the pole, fell into the river.

Upon this, the old man, vexed and ashamed, made the best of his way home again, convinced that by endeavouring to please everybody he had pleased nobody, and lost his Ass into the bargain.

Æsop.

G.C.R. War Memorial Nameplate Preserved


VALOUR
IN MEMORY OF
G.C.R. EMPLOYEES
WHO GAVE THEIR LIVES FOR THEIR COUNTRY
1914 - 1918
PLATE TAKEN FROM G.C.R. ENGINE N° 1165 (LNER N° 1496)
WITHDRAWN FROM SERVICE 31ST DEC 1947

One of the nameplates of the former Great Central Railway war memorial locomotive, "Valour," scrapped last year, has been attached to the wall of Gorton Iron Foundry

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

TANGANYIKA

Railway Link-Up with the South

A forecast that East African railways will be linked up sooner or later with the Rhodesian system was given by Mr. J. R. Farquharson, General Manager of the Tanganyika Railways & Harbours, in moving approval of the amalgamation of the East African systems in the Tanganyika Legislative Council (see *The Railway Gazette* of May 7).

"It seems probable, with the development envisaged in Africa," he said, "that the question of converting the East African lines from metre gauge to 3 ft. 6 in. will have to be tackled during the next 10 to 20 years when a junction is effected with the Rhodesian system. The change of gauge will be a fairly lengthy process, will involve a number of temporary divisions in traffic flows, and will be facilitated greatly if the lines are under a single direction."

In his view the advantages of amalgamation clearly outweighed the disadvantages. Among them he cited the uniform rating structure and the gain to East Africa as a whole. Internal traffic, he pointed out, was certain to increase and the increasing inter-territorial movements would be facilitated greatly by the uniform tariff.

The greater financial stability arising from a larger system was a safeguard against droughts and depressions in particular industries, and Tanganyika always would be free to take appropriate action to safeguard the territory's interests, with a substantial voice in the policy to be followed by the unified undertaking.

SOUTH AFRICA

Coal Traffic

Coal railed from the various collieries averaged over 383,000 tons a week in January, and the total for the five weeks ended January 31 amounted to 1,919,055 tons, as compared with 1,897,305 tons in the corresponding period of last year. Export coal amounted to 254,711 tons for the five weeks ended January 31. This was a decrease on last year of 54,788 tons.

New Road Services

New routes totalling about 420 miles have been opened up since the beginning of this year by S.A.R. road motor services. Of this total, 250 miles are in the north-eastern area of South West Africa, where three separate routes radiate from Gobabis, which is the terminus of the branch railway line running due east from Windhoek, the capital.

S.A.R. Police

In January, 1946, a committee was appointed to investigate the establishment, organisation and functions of the Railway Police Force. The committee has submitted its report, and arising out of the recommendations made, improvements in grading, remuneration and conditions of service of the personnel of the force have been decided on. The improvements, involving an additional annual expenditure of approximately £46,000, are back-dated to January 1, 1947.

The age restrictions governing admission to the Railway Police Force have been altered to between 19 and 35 years. Furthermore, the stipulation that recruits must have had previous police experience has been abolished, as the department has established its own police training depot.

Dockyard looting and pilfering on cargo ships before they reach their destinations are phases of organised crime which have now reached such proportions as to cause alarm in many countries, including the Union. In consequence, the South African Railway Police, collaborating with police forces in other countries, have launched a drive to help smash what is believed to be an international ring of smugglers, with agents in practically every country on the world's shipping routes. The goods stolen are mostly textiles, silk stockings, foodstuffs, and footwear. Though much remains to be done, the Railway Police have already tracked down a gang of smugglers operating from Union ports and with agents in inland centres.

RHODESIA

Congestion Eased at Beira

The traffic position at Beira has improved, and regular sailings of Conference Lines vessels to the port are being resumed. Until the port works are extended, however, the volume of shipping is to be controlled so as not to exceed the capacity of the port. According to a recent Ministerial statement, the tonnage handled last year worked out at more than 4,700 tons a day.

Impending Legislation

Inter-Government meetings between the two Rhodesias and Bechuanaland have been held with a view to reaching agreement on the draft Railway Bill to be debated at the present session of the Southern Rhodesia parliament. There have been consultations also with officials of the Rhodesia Railway Workers' Union. The acquisition by the Southern Rhodesia Government of the share capital of Rhodesia Railways Limited necessitates legislation for the control of the railways, which will be operated jointly by the three partner Governments (*i.e.*, Southern and Northern Rhodesia, and Bechuanaland).

Legislation is to be introduced also to carry out miscellaneous amendments of the Rail & Road Traffic Act in accordance with the recommendations of a commission which has inquired into control and co-ordination of transport.

INDIA & PAKISTAN

Plans to Expand Karachi Railways

Plans for the development of Karachi are being pursued actively by all departments of the Government, and there are schemes for large industrial estates and expansion of residential areas. To provide suitable rail facilities for all these, the North Western Railway is carrying out traffic and engineering surveys for new rail connections and yards between the port area and Drigh Road and Malir, in an area to the north of the existing city.

Muslim Railwaymen Returning to Indian Dominion

Nearly 18,000 Muslim railway employees, who had opted provisionally for Pakistan before the transfer of power, have changed their decision and elected to serve the Indian Dominion. Of the 6,000 who were relieved on transfer from India, 3,000 came to Pakistan, and after some time returned to India, changing their provisional option; another 3,000 stayed in India; the rest (12,000) made their final choice before they were to have been relieved.

Quite a large number of men exercised their final option in the last week of the six months ended February 14.

Inter-Dominion Committees

At a recent conference in Calcutta of representatives of the Dominions of India and Pakistan, it was agreed that, to ensure avoidance of transport bottlenecks and congestion, mutual contacts were necessary at operational level between the railways in the two Dominions.

Operational committees, consisting of representatives of the three railways in the eastern region, namely, the East Indian, Assam, and Eastern Bengal, and the two railways in the western region, namely, the North Western and the Eastern Punjab, may be set up to deal with difficulties relating to rail transport, including in particular delay in the turn-round of wagons, discriminatory treatment in the allotment of wagons or charging of freight, and matters affecting priorities.

The conference also recommended that railway operational committees be established on an inter-Dominion basis to settle broad principles of rail transport.

BURMA

Train Service Increased

A daily service was introduced between Sagaing Shore and Alon, on the Ywataung-Alon section, on March 1. The line was reopened last December, as recorded in *The Railway Gazette* of March 5, and at first the service beyond Sagaing Shore was three times a week.

New Equipment in Service

During March, 15 "YB" class Pacifics and two "ST" class 2-6-4 tank locomotives were put into traffic. Both types were built in Great Britain, and described in *The Railway Gazette* of November 7, 1947, and April 9, 1948, respectively. It is intended to transfer three of the "ST" class engines to the eastern side of the Gokteik Gorge, where they will permit an increase in the service on the isolated Nawngpeng-Lashio section. Trains here are running at present three times a week, as recorded in *The Railway Gazette* of March 5, and road transport links up with the line to Mandalay at the other side of the gorge. Local output of wagons and repairs to coaches have improved with increased supplies of parts from India.

UNITED STATES

Chicago Underground Progress

Work on the Milwaukee Avenue—Dearborn Street—Congress Street line is expected to be finished about the middle of 1949. The incline at its north end, connecting it with the elevated rapid transit tracks, is being completed at present, and both double tube shield-work and open cutting sections are in hand, the latter being 60 ft. deep in one place.

The terminal station near the South Branch of the Chicago River is also taking shape. A contract was let in December for supplying and laying permanent way, including contact rail and ducts, at a cost of $1,883,000. Signalling and traffic control equipment will cost some $717,000.

The Paget Locomotive and After

The failure to break away from conventional steam locomotive design

By Kyrle W. Willans, M.I.Mech.E.

READING, and re-reading Mr. Clayton's article on the "Paget" locomotive* causes one to realise how little "original" designing has been carried out on the British railways since the Stephenson era. By "original" the writer means departures from basic design such as those included in the experimental locomotive referred to.

The paucity of such departures from the conventional was brought sharply home to those of us who have mixed locomotive engineering with other branches of mechanical engineering, by Mr. Bulleid's paper on the "Merchant Navy" class locomotive. Admittedly his design represented a very great departure from the conventional, but that it should be such a departure was no compliment to locomotive engineering initiative. It was, for instance, extraordinary to read, in the discussion, of surprise that tubes should be satisfactory if welded into tube plates, and to hear doubt expressed concerning the removal of such tubes, and the expected difficulty of removing welds from tube ends and plates.

To put it brutally, progress in locomotive design in these islands, as compared, say, with progress in the design of power station equipment, has been pitiful. In the one, it has been a process of evolution, and in the other, of revolution. The writer recently visited a power station owned by Maple & Co. Ltd., in Tottenham Court Road, and saw there one of his father's central-valve engines supplied in 1887, taking its turn on load. Recently, there appeared in the columns of engineering papers illustrations of an ex-Midland Railway locomotive of about the same age, that was considered worthy of inclusion in a museum of locomotive antiques. In 1887, the Willans engine was the accepted prime mover for the purpose of generating electric current, but the present-day power unit has no point in common. In the case of the locomotive, the same "guts" exist, the superficial details differ, and in all probability there is little or no difference in the coal consumption.

Leaving the general for the particular, and giving consideration to the writer's preference for boilermaking and boilermakers (the profession staffed, as the old shop saying has it, by the animals which most resemble men), let us consider the locomotive boiler, taking Paget's design for a start. If we refer to Mr. Clayton's comprehensive and enthralling article in *The Railway Gazette* of November 2, 1945, we read that the boiler was found to steam well. Having regard to its steaming qualities, and to the fact that it was in existence, it was criminal not to have made comprehensive tests, as not only had it certain constructional advantages, but the tests would also have given useful data concerning the value of firebox legs as steam raisers.

To the writer, the paucity of data concerning the locomotive boiler is distressing, more especially as we are now getting ready to attend the funeral of the steam locomotive. Many readers of the paper on the "Merchant Navy" class locomotives must have shared the writer's feelings that main-line boiler proportions appear to be based, in part, on loading-gauge restrictions, which admittedly are final, in part on the length of the locomotive frame between the cylinder casting, and also on the space available for the firebox at the after end. Into the largest possible barrel, the designer then stows away the maximum number of tubes and superheater tubes, the length of the tubes being governed mainly by the inevitable length of the boiler barrel.

The point that one cannot help feeling, however, is that experiment might well demonstrate that the boiler tubes are far too long, and that by materially shortening the tubes, and using the thereby increased smokebox temperature to provide heat for either an economiser unit, or for a La Mont type generator unit, steam generation and boiler efficiency might, the writer stresses the word *might*, be improved. There are, it is believed, test records in existence concerning trials made in France, which indicate clearly and conclusively that only a relatively short amount of tube length justifies its existence as a steam producer.

Again referring to the "Merchant Navy" class, Mr. Bulleid made use of Nicholson thermic syphons, obviously to the advantage of the boiler. This at once indicated to the writer that by the use of forced circulation in the firebox legs, either by means of a La Mont type pump, or another method, the advantages gained by the thermic syphon could be improved on.

Putting aside the efforts made by Sentinel Industrial Locomotives Limited, which, of course, were on only a small scale, and other small-scale locomotive boiler designs, it would appear that three, and only three, major departures from accepted locomotive boiler design have been tried out from Paget's time onwards in this country. The others were the catastrophic L.M.S.R. experiment and the Yarrow-type boiler fitted to a L.N.E.R. locomotive.

If we turn to the contract locomotive builders, we unfortunately find the same state of affairs. Here, however, we can absolve certain of the smaller builders, and particularly those which have done a great deal of original designing in the direction of internal combustion locomotives. In so far as the large firms are concerned, they would be the first to say that their metier was to build locomotives to purchasers' design and specification, and that it was no part of their business to indulge in experimental work. In this respect, the locomotive builders in question compare very badly with, to give one example, the big firms in the electrical industry, which build both engines and generators.

Need for Experiment

Standing on the threshold of the diesel and gas turbine era of locomotive construction, abnormal concentration on straight manufacture, as distinct from a combination of straight manufacture *plus* experimental work, is going to place them at a disadvantage. Admittedly, any experimental work done by the firms has been of a type that was not calculated to make the others imitate them. Reference is to the various geared turbine, and turbo-electric, locomotives, which, after many years, followed the Heilmann locomotive of the '90s. In this locomotive, strangely enough, the Willans engine also figured.

The outsider quite reasonably would lay the blame for stagnation in steam locomotive design at the door of "inbreeding" of personnel, and though the fateful interchange of locomotives among the "big three" brought some, shall we say, "New Sires" into the stud, the strain was gravely impaired. Looking back on the days of the writer's first entry into locomotive construction, it is still hard to realise the extent to which Chief Mechanical Engineers in those days would go, so as to be different. One would be known by his funnel top, another by his splashers, yet another introduced a species of louvre into his funnel, so that the inrush of air would aid the draught.

The writer remembers three orders for boilers going through the shops at the same time, one for the North British, one for the S.E.C.R., and the third for the Taff Vale. In the pre-electric welding era, one would imagine that carefully bedded steel pads, riveted to the back plate of the boiler and carefully fullered, if indeed that was required, was the right way to do the job. At any rate, that was what W. P. Reid of the North British required. Wainwright of the S.E.C.R., however, demanded bronze pads, similarly bedded down and riveted on, and one took good care that no cracks had been started by the closing up of the hot rivets. The C.M.E., however, could pat himself on the back that he had not slavishly copied the North British.

The C.M.E. of the Taff Vale was faced with only two materials from which the pads could be made, and also by the fact that both other parties used rivets. He met the situation by using bronze pads as did the S.E.C.R., but preserved his individuality by attaching these to the boiler plate by *countersunk patch studs*. When one realises that the water-gauge top pads were bedded to the curved surface of the flange of the back plate, which was curving in two directions, and that the patch studs had to be drilled at right angles to the face of the pad and in consequence "semi-tangential" to the plate in some cases, while the square of the patch stud had to be cut off before the boiler fittings were fitted to place, it can be appreciated that the individuality of the C.M.E. was preserved at the expense of a thoroughly rotten engineering job. The response to a protest was simply that: "Our men can do it, must be something wrong with yours!"

Reverting to the locomotive boiler once more, many years ago, when the writer's father was carrying out his famous engine tests, steam was supplied by a locomotive boiler purchased from the old L.S.W.R. Peter Willans found that with draught equivalent to that on the locomotive, and with careful firing, 350 i.h.p. was the utmost that he could get from one of his highly economical steam engines taking steam from that boiler. Many years after, one of his chief assistants told the writer that Willans had intended to mount the boiler in a frame, make the steam pipe flexible, and make the boiler "pitch" to see the increase due to this movement in the steam generation.

It was the memory of the foregoing, *plus* the use of the Nicholson syphons, that made the writer suggest to a C.M.E. an experiment in forced circulation in the legs of a locomotive firebox. Perhaps it may yet happen, but if the mentality that dealt with Paget's far-seeing experiment still obtains, the experiment might just as well not be tried. To carry out an experiment with a mind convinced that the experiment ought to fail, and that it will be best for all if it does fail, comes very close to infamous conduct in a professional respect, besides being a waste of one's firm's money.

(*Editorial comment on this article appears on page* 620)

* "The 'Paget' Locomotive," reprinted from *The Railway Gazette*, November 2, 1945. Price 2s.

Further Central Line Essex Extension

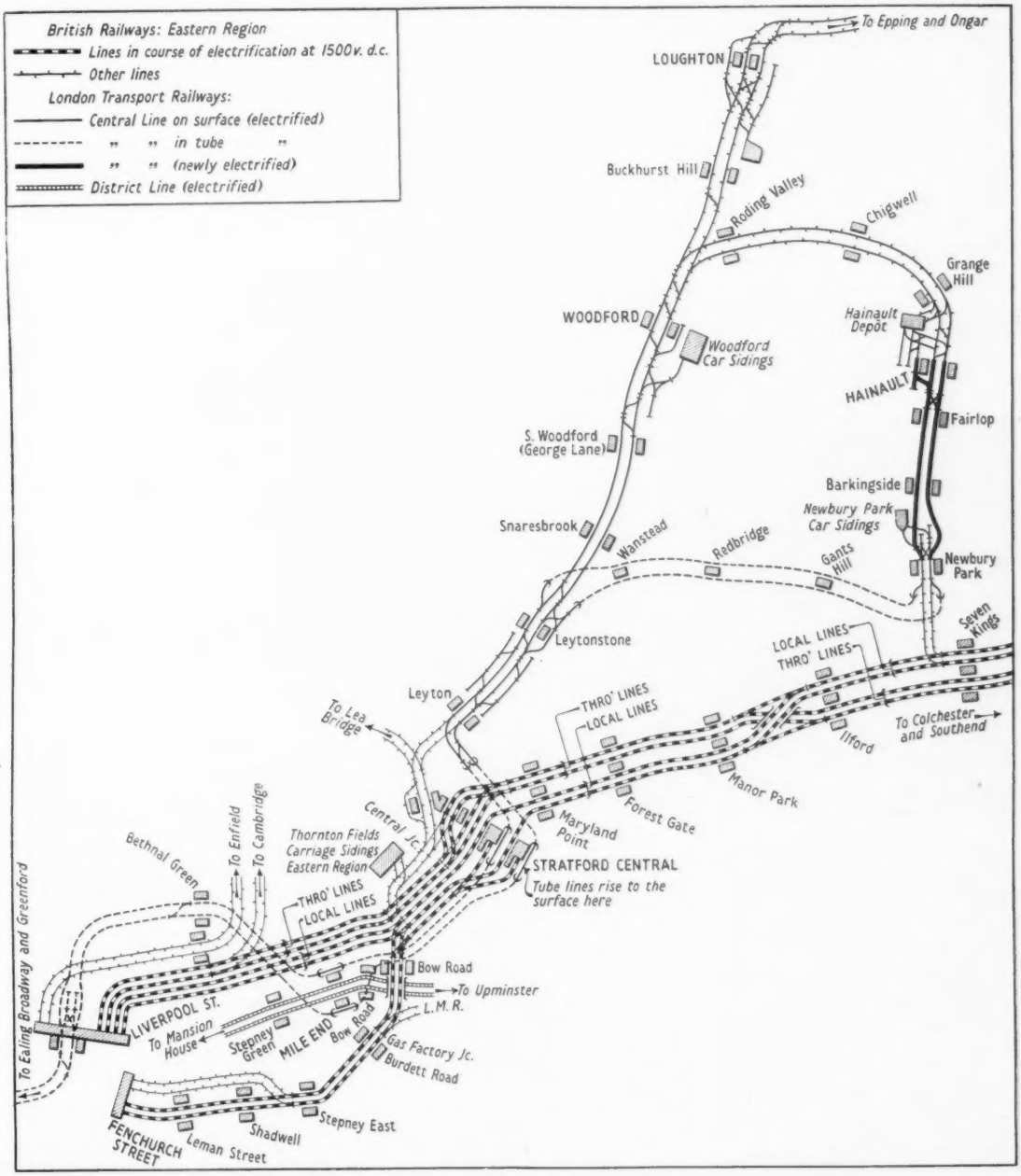
Tube train services to three more stations. The first opening since nationalisation

A FURTHER stage in the projection of the Central Line tube services of London Transport into Essex will be reached on Monday next, May 31, when the 1·89-mile section of the former London & North Eastern Railway between Newbury Park and Hainault is reopened, after electrification, for tube train operation. This will be the first opening since nationalisation. This section of line has been equipped for electric traction since December last, when Central Line trains were extended from Leytonstone, through a new tube section, to Newbury Park, but it has been used only for service trips to give access to the Hainault depot, pending the completion of the resignalling.

The tracks were re-ballasted throughout by London Transport, which also installed the current rails and power supply. London Transport standard two-aspect colour-light signalling has been installed, with some modifications to suit the steam goods working of the Eastern Region of British Railways, which will continue at night. Cable runs have been erected in accordance with the London Transport standard practice of keeping cables accessible and above ground where possible.

Hainault Depot

The carriage depot at Hainault is one of the four large car depots included in the London New Works Scheme of 1935. It is generally to the standard pattern as adopted for Neasden and Ruislip. Hainault depot is now being modernised and rehabilitated after its wartime use by the War Office and also by the United States Transportation Corps, which used it for the assembly of rolling stock in connection with the operations in North West Europe. When this work is completed,



The Eastern extension of the London Transport Central Line, showing the Newbury Park to Hainault section, which is to be opened on Monday, May 31

the depot will have a total capacity of 344 cars, of which approximately one-fifth will be under cover. It now becomes one of the two main depots at which all Central Line rolling stock inspections and minor repairs will be carried out. The other depot will be at the western extremity of the line, at West Ruislip, when the electrification of the section beyond Greenford is completed.

Major repairs will continue to be undertaken at the London Transport rolling stock overhaul works at Acton.

Welded Bridge

An interesting feature is that one of the new bridges necessitated to give rail access across the New North Road between the depot and Hainault Station is of all-welded construction. The two main girders of this bridge, which are not parallel and are on the skew, are approximately 50 ft. span. The deck, consisting of 8 in. × 5 in. × 28 lb. filled joists embedded in concrete, is carried on a single cross-girder to which are attached four rail bearers on each side; under the ballasted track which crosses the bridges there is a layer of waterproofing covered with brick tiling 1⅛ in. thick.

The arrangement of the track is such that it is possible for two turnouts to be laid immediately on the span. The total weight of the steelwork in the bridge is approximately 70 tons, of which the two main girders account for 22 tons, and it is estimated that a 20 per cent. saving in weight has been effected in comparison with a similar riveted design.

Stations

There are two intermediate stations on the newly opened section, namely, Barkingside and Fairlop, and the section terminates at Hainault. Hainault Station has been rebuilt with a new booking hall below the tracks, and the down platform converted into an island. The work was largely completed before the war, and the station is now being equipped with a roof over the island platform and generally finished on austerity lines. At Barkingside and Fairlop, the existing station buildings are being renovated where necessary to bring them into line with other stations on the system. Electric lighting is being installed, and ticket offices, staff rooms, and ancillary buildings are being reconstructed to London Transport standards. Poster sites and signs are also being altered or renewed to conform to the usual design for "Underground" stations.

Train Services

The bringing into full use of the new depot at Hainault makes possible an increase in service frequency during peak periods of four trains an hour over the main section of the Central Line between White City and Leytonstone. Of these additional four trains, two will run on the Woodford branch and two on the Newbury Park branch. This means that, after May 31, 17 trains an hour will run on each branch line, a slight increase over the present service in each case.

Of the Newbury Park trains, approximately half will continue on to Hainault, so that the three new stations will have approximately a 6-min. interval peak-hour service to and from the City and West End, lengthening to 7½ min. at midday and on Saturday evenings, and to 10 min. on other week-day evenings and all day on Sundays.

In all, 73 train sets will be required to operate the new service. Of these, 12 will be composed of 8 cars, and it is proposed to use these as far as possible during the morning and evening peaks. This will result in more accommodation as well as extra trains being available during the peak hours over a large section of the line. It will be remembered that all Central Line trains were lengthened from 6 cars to 7 cars when the line was extended from Leytonstone to Woodford and Newbury Park last year. Since then a few 8-car trains have been running as available.

Mechanised Parcel Stamps Issue, Eastern Region

Adaptation of cash register machine overcomes the difficulty of replacing existing types

FOR fourteen years machines have been in use at Kings Cross and Liverpool Street parcels offices, Eastern Region, for the issue of parcel stamps. These machines, electrically driven and with elaborate safeguarding arrangements, had exceeded their mechanical life by some years, but renewal had been postponed until, owing to increasingly heavy maintenance costs, replacement could be deferred no longer.

Because of short supplies in the home market, and the need for economy, the Passenger Department Research Section of the British Railways (Eastern & North Eastern Regions) was asked to investigate how replacement could be made by the improvisation of machines fairly readily available at the present time.

As the result of collaboration with the National Cash Register Co. Ltd., four new machines have now been installed. After some investigation it was found that the company's normal "100" class machine (used in retail stores) could, by simple adaptation, provide adequate accountancy safeguards and fulfil all traffic requirements.

In relation to the replaced machines, the "100" class models have the advantages of mechanical, instead of electrical operation, and the issue of a thin paper stamp compared with a stiff card stamp, which had caused difficulties in affixing to parcels, particularly if the wrappings were not of paper or other smooth material.

The "100" class machine issues stamps for any amount between 1d. and 19s. 11d. For values above 19s. 11d. which are not required frequently, two or more stamps are issued. The operating clerk first depresses one of two keys to register his identity, then partly depresses the "amounts" keys until, at the final selection, the key is depressed fully and operates the machine. The issued stamp bears the name of the forwarding office, the date, serial number (this is recorded on the counter sheet against the details of the consignment), the amount and, if at owner's risk, a suitable symbol. The last detail is included by the pressure of a special key. This key was a novel conversion of one that is normally used in retail stores when amounts are paid out, the internal mechanism being altered suitably so as not to effect a deduction from the totaliser.

As each stamp is issued, an entry is made on a visible record strip which shows the identity of the clerk handling the consignment, whether the consignment is at owner's risk, and the carriage charge. This record strip passes under a window from which a portion is cut to allow special inscriptions to be made against any items that may require them.

Totalling and Resetting

The totalling of the record strip is done mechanically, each clerk's total being calculated separately. By means of various locks and keys, entry to the totaliser apparatus is regulated so as to provide clerical access for the reading of intermediate totals, or the reading by an authorised person of final totals and the resetting of the cash counters to zero. Resetting is "proved" by a simple action which records the zero reading on the record strip at the beginning of a day or shift.

The illustration shows the style of the new parcels stamps, with the "British Railways" background; and the operating keys that register the clerk's identity and, if necessary, the owners' risk symbol.

QUALITY CONTROL.—British Standard 600 (Application of Statistical Methods to Industrial Standardisation & Quality Control) has been reprinted, and copies may be obtained from the British Standards Institution, 24, Victoria Street, London, S.W.1, 12s. 6d. each.

High-Production Fishplate Drilling Machine

Continuous operation facilitated by simplified controls and arrangements for loading while work is in progress

A MULTI-SPINDLE drilling machine of special design, has been developed recently by Kitchen & Wade Limited, Gibbet Street, Halifax, for drilling fishplates and similar components on a high-production basis. Of new construction throughout, special attention has been directed to obtaining maximum production with minimum fatigue of the operator. As will be seen from the illustration, the machine is of a horizontal type, the spindles being mounted centrally, with work-holding jigs fixed at each end of a traversing table.

The operator loads one jig by inserting two fishplates; these are located by hardened-steel rollers formed to suit the fishplate profile, clamping being effected by the steel lever mounted at the front of the jig. The "start" button is then pressed, which sets the spindles in motion and brings the loaded jig quickly up to the drill points, where an automatic change into slow feed occurs. It will be appreciated that the other jig, being mounted on the same traversing table, has moved away from the spindles, and can be loaded whilst the drilling operation is taking place.

On completion of this drilling operation the machine is stopped automatically. The operator can press the second "start" button immediately, thereby bringing the newly-loaded jig up to the drills and withdrawing the jig carrying the drilled components, which is unloaded and reloaded ready for the next cycle.

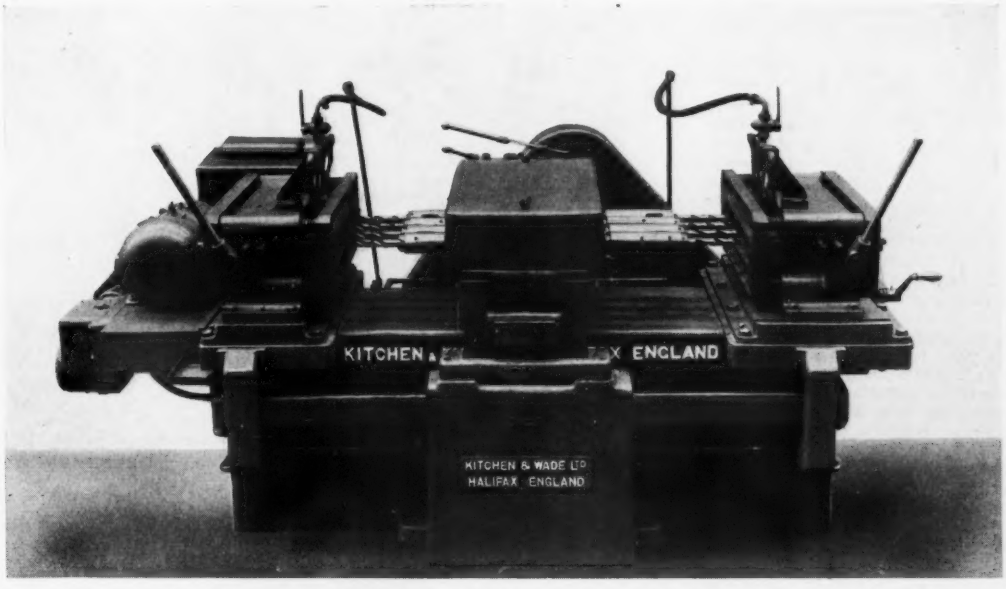
The jigs will accommodate any type of four-hole fishplate up to 24 in. maximum between the extreme holes; the subsidiary pilot bush plates and the formed locating rollers are the only parts to change for accommodating different types of components. A device for the ejection of finished work from the jig is fitted, and unloading and reloading the jig is a simple operation, and is the only effort required of the operator apart from pressing the "start" buttons.

The four spindle heads are adjustable for centres between 3½ in. minimum and 6 in. maximum, and a range of speeds and feeds suitable for ¾ in. to 1¼ in. drilling in steel is provided. Adjustable drill sockets are fitted to each spindle, enabling drills of varying length to be used efficiently.

Main drive is taken from a 15-h.p. constant-speed foot-mounted motor by a multiple vee-belt drive through a single lever change gearbox direct to the spindle heads. The 3-h.p. quick traverse motor is fitted directly on the machine table.

Coolant is fed to each drill, and this supply is controlled automatically from the machine table traverse, ensuring that the supply is fed to the drills only during the actual drilling operation. The machine is of particularly robust construction for continuous arduous duty, and all mechanical and electrical motions are protected by suitable overload devices. The slideways are fully covered at all positions of the table.

The machine occupies a space 12 ft. 6 in. by 5 ft. 6 in., and weighs 5 tons.



View showing the two sets of spindles, permitting drilling and loading to proceed continuously

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WASTE PAPER SALVAGE INCREASING.—Industrial and commercial concerns all over the country are joining in the drive for more waste paper salvage which was begun last month by representatives of the national, provincial, and periodical press, in co-operation with the Waste Paper Recovery Association. An approach to business houses in Southampton, for example, has resulted in a 60 per cent. increase in their paper collections. Among the larger concerns, waste paper sold by the Fort Dunlop factory during the first quarter of the year amounted to 153 tons. The Cadbury organisation, a large user of paper and board, is sending more than 30 tons for repulping every week. Even greater efforts are required, however, if an extra 100,000 tons of paper are to be collected by the end of June. All industrial, trade, and professional concerns are urged to help in their own and the national interest by turning out waste paper quickly. The Waste Paper Recovery Association, of 52, Mount Street, London, W.1, will be glad to help where collection difficulties are experienced.

REPAYMENT OF MEXICAN RAILWAYS DEBT.—The International Committee of Bankers on Mexico (New York) has announced a distribution of a substantial part of the funds remaining in its hands to holders of bonds of the Mexican Government and of the National Railways of Mexico, deposited under the Agreement dated June 16, 1922, amended in 1925. The amount of the distribution is $4,702,028. The present distribution is a step in the conclusion of the committee's work begun over 25 years ago, at which time it initiated steps to secure a resumption of interest payments on the debt of the Mexican Government and the National Railways of Mexico, which had been in default since the 1914 revolution in Mexico. During the five years in which payments were to have been made, the Mexican Government remitted some $43,000,000, which sum was increased, by interest earnings and miscellaneous receipts, to about $45,000,000. During those years about $33,000,000 was handed over to paying agents for distribution to bondholders. The sum remaining was insufficient to pay a full year's interest on all the deposited bonds at the prescribed rates, and, after payments ceased at the close of 1927, the committee sought judicial instructions as to the distribution of the remaining funds. Because of protracted litigation, no distribution was possible until the present time.

Radio Communication Equipment for Railways

New techniques embodied in recent apparatus result in reduced demands on power supply and maximum ease of operation

VARIOUS wartime developments in radio increased the possibilities of applying this method of communication to railway purposes. A series of experiments in this direction carried out by the former L.N.E.R. were described in our May 30, 1947, issue, and we have recorded the installation on railways of the United States of many equipments designed for passing messages in marshalling yards; between trains and lineside stations; between driver and guard; and between certain main-line trains and the public telephone network. It is the possibility of accommodating numerous stations without mutual interference in the band of frequencies known as V.H.F. (very high frequencies) which has done so much to stimulate interest in radio for railway communication. Coupled with this has been the development of frequency-modulation.

There are two methods of impressing speech on the continuous wave output of a valve transmitter, one of them being by varying its amplitude at an audio-frequency, and the other by a similar variation of the output frequency. Although frequency-modulation is most commonly associated at the present time with improved quality of reproduction in broadcasting, the system has several advantages for the transmission of ordinary commercial messages by radio telephone.

Reception is less subject to interference by ignition or electrical noises, and, in many circumstances, there is a virtual gain in selectivity by reason of the "capture" effect, which means that a receiver will reject entirely an unwanted signal close to the frequency of reception provided that its strength is below a certain level—namely, in conditions when an amplitude-modulated signal would be heard against a background of the second transmitter.

The power required for frequency-modulation is less than that which has to be available when the amplitude method is used, a feature particularly attractive for mobile installations, where the available power supplies are restricted, since it provides an increased service area for a given input to the equipment. A characteristic of the receiver circuit used with frequency-modulation is the relative simplicity with which muting may be applied, giving a silent background except on reception of a signal at the frequency to which the equipment is tuned.

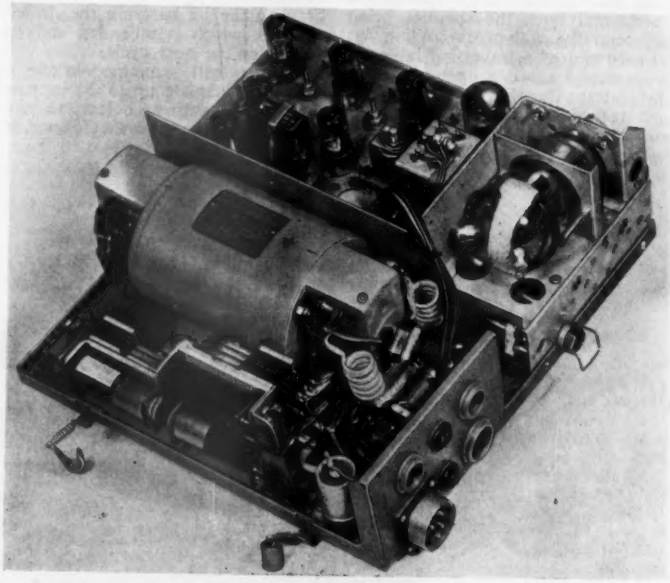
Mobile Apparatus for Vehicles

The characteristics described above are exemplified in a mobile V.H.F. installation designed by Mullard Electronic Products Limited, which is in practical use already in a scheme entailing two-way communication with vehicles moving within a considerable area. The mobile equipment consists of separate transmitter and receiver boxes, operated from a remote control unit and capable of operation from a 6-V. or 12-V. battery (12-V. operation is preferred).

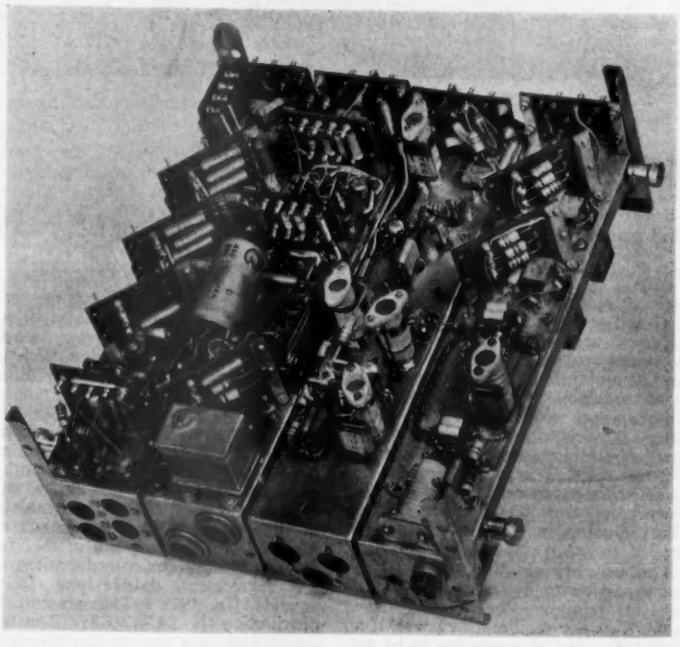
Each unit is adjusted for operation on a single selected frequency, controlled by a crystal. The transmitter box contains a rotary converter supplying power for the whole installation, and the transmitter itself delivers 20 watts to the aerial feeder on frequencies below 100 Mc/s, or 12 watts above that frequency. The range within which transmitters and receivers may be adjusted to operate is from 65 to 166 Mc/s, there being four models to cover the whole band.

In the receiver, a double-superheterodyne circuit is used, both local oscillators being controlled by the same crystal. After the second intermediate frequency amplifier, the signals pass through two limiters to a discriminator stage, which separates the audio-frequency component from the amplified frequency-modulated input. Muting is accomplished by a simple circuit associated with only one valve.

The equipment can be connected to separate transmitting and receiving aerials to allow for duplex operation (transmission and reception on different frequencies). When operating in this way, two-way conversations, as on normal telephone circuits, can be carried on at distances up to between one half and two thirds the full range available without switching from transmit to receive. Each aerial is a vertical rod, the length varying with the



Assembly of rotary transformer and transmitter chassis in the Mullard frequency-modulated mobile equipment



Underside of receiver associated with the above transmitter, showing unit assembly of chassis and accessibility of components

frequency and being roughly 2 ft. 6 in. when working in the neighbourhood of 100 Mc/s. In view of the ample power output from the transmitter, slight screening of the aerial would not be detrimental in many railway applications—mobile equipment in shunting locomotives, for example—and the aerials therefore could be mounted fairly low down on the side of a locomotive so as not to infringe loading gauge regulations; only the top of the aerial need project above the locomotive.

When duplex working is not required, a single aerial is used, and the transmitter or receiver are connected to it in turn by means of a relay. The receiver provides an output of 3 watts, and, in one installation now in service, supplies two loudspeakers and a telephone type hand set. One larger loudspeaker and the hand set may be used if more convenient. Special attention has been paid to accessibility for servicing in the design of the equipment, the receiver and transmitter components being each mounted on several chassis, which can be removed by unsoldering four or five connections, and permit of a new unit being installed readily when one chassis requires workshop attention. Normally, servicing entails only the weekly trimming of two controls on the transmitter and receiver, which are adjusted by a screwdriver in each case until a maximum reading is observed on a meter. Nearly all components in the equipment can be removed for repair without disturbing adjacent items.

Current Consumption Figures

The current requirements of the mobile installation are small. When working in duplex, for example, using a 12-V. battery supply, the consumption with transmitter and receiver operating simultaneously is 14½ amp.; or 9 amp. in the standby position, with the receiver and transmitter heaters on but the transmitter high-tension off. The currents taken in simplex working are 7 amp. with the receiver and 10 amp. with the transmitter in operation.

There are only four controls on the remote control unit, namely, a receiver on/off switch; a switch for the transmitter heaters; a cut-out for the muting circuit, which may be necessary at maximum range, or occasionally to satisfy the operator that the equipment is functioning; and a volume control. High tension is supplied to the transmitter valves by means of a press switch incorporated in the telephone hand set.

An average range with a well-sited fixed transmitter (for which a 100-watt instrument is available) is from 12 to 15 miles. Practical tests have shown that communication with this equipment is little affected by screening from bridges and other structures.

Battery-Worked Portable Equipment

The economical power requirements characteristic of frequency-modulation, which have been noted already, offer new opportunities for the design of lightweight portable equipment. For a given input, about twice the output power which would be obtainable with amplitude modulation is available, and the system therefore lends itself to use in battery-operated transmitter-receivers. In a new equipment designed by Tele-Radio Development Limited, the necessary power for supplying approximately 500-700 mW. to the aerial is taken from a 90-V. Drymax high-tension battery and a 2-V. Exide M.R.2A cell. Current requirements are 20 mA. H.T. when transmitting, and 12-14 mA. when receiving, the corresponding

Tele-Radio portable frequency-modulated transmitter-receiver with a battery power supply

L.T. consumptions being 700 mA. and 350 mA. respectively. Operation of this equipment is reduced to its simplest terms, the tuning to the allotted channel within the 65-95 Mc/s band being carried out during production. Crystal control is used both for the transmitter and the local oscillator of the seven-valve super-heterodyne receiver. Both crystals are hermetically sealed.

The dimensions of the equipment are only 9 in. × 7 in. × 3½ in., and the weight, complete with batteries, is 10 lb. Communication is obtainable over ranges between half-a-mile and one mile in difficult built-up areas, or over a range of two to three miles in open country. This is believed to be the first application of frequency-modulation with crystal control to an equipment so readily portable.

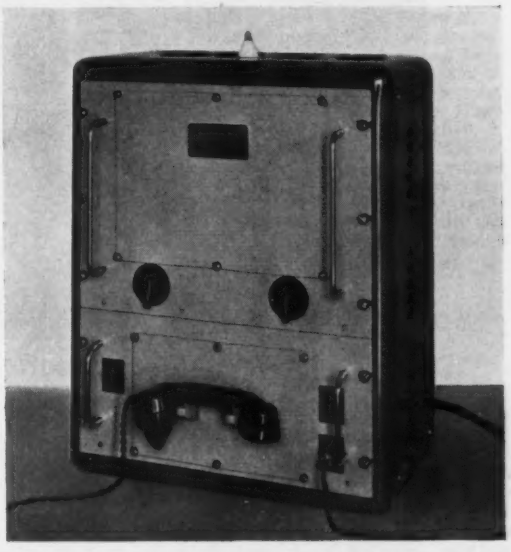
Both types of equipment described so far operate in what is known as the V.H.F. band. These very high frequencies lend themselves to short-range communication for industrial purposes, being widely removed from the ordinary broadcast frequencies and tending also to confine their radiation to the vicinity of the railway tracks. The range at which communication can be effected is described usually as "optical" range, being governed by the curvature of the earth but not necessarily restricted by obstacles to sight, although these may have a certain screening effect. To some extent, therefore, the range increases with the height of the transmitting aerial.

Fixed Station H.F. Installation

Communication over greater distances than those for which the V.H.F. frequencies are adapted may be required in railway operation, either for regular or emergency contact between stations or offices. In these circumstances, the high-frequency band is suitable (roughly between 1 and 8 Mc/s). The simplicity of operation which characterises the two V.H.F. equipments described has been studied equally in a high-frequency transmitter-receiver for fixed or mobile station use designed by Rediffusion Limited.

By the use of crystals in the transmitter and receiver, five pre-selected frequencies can be brought into operation with the turn of a single switch, and the change from "transmit" to "receive" is effected by a press-switch incorporated with the telephone hand set. Apart from these controls, the only other manipulation required of the operator is to select the type of service required by means of a second 5-way switch. This provides, among other facilities, a "standby" setting in which the receiver is fully operative, but in the transmitter only the heaters are switched on, thus ensuring economical operation during listening periods, with the possibility of immediate transmission when required. An external loudspeaker can be operated from the receiver in addition to the telephone hand set when necessary. The instrument receives its power supplies from a separate power unit, which may be for either a.c. or d.c. operation. Two-way telephone communication over ranges of the order of 250 miles can be obtained with this apparatus.

As a result of recent developments in radio communications equipment, a variety of apparatus is becoming available that lends itself to railway operating requirements. Further development depends as much on the defining and standardisation of these requirements by railway administrations, as on continued progress in the technical design of radio apparatus.



Rediffusion radio-telephone for the high frequencies

COME TO BRITAIN FOR SPORT.—A set of six sporting folders, designed to emphasise the wide variety of entertainment which Great Britain can offer the visitor from overseas, is the latest addition to the literature of the British Travel Association. Subjects dealt with in these colourful folders, each of which has an informative map, are racing, motoring, yachting, fishing, golf, and walking, and their covers are reproductions of a series of full-colour posters circulated overseas well in advance of the tourist season.

Automatic Ballast Cleaning

A machine on trial by the Railway Executive sifts, spreads, and rejects ballast while moving along the track

THE Railway Executive is carrying out trials with a Matisa automatic ballast cleaning machine under arrangements made with the Swiss manufacturer, Materiel Industriel, of Lausanne, through the British Agents, the Matisa Equipment Company. This machine automatically removes and riddles deteriorated ballast from beneath and between the sleepers whilst moving along the track. The rate of progress when working varies with the depth of the ballast removed.

Negotiations with the firm for the loan of the machine were begun some time ago by the former L.N.E.R., and preliminary trials, which have been carried out on the London Midland Region, have been impressive. It seems evident that the use of this machine can save much toil and effect substantial economies in this class of work. It will be recalled that in 1947 the L.N.E.R. introduced experimentally a Matisa automatic tamping machine, described in our issue of August 22, 1947, and that this machine was loaned to the Southern Region for the recent work at Polhill Tunnel.

All the automatic functions of the Matisa cleaner are electrically operated by separate enclosed motors powered by a 100-120-h.p. diesel-driven generator. The main body of the machine is in the form of a trolley about 18 ft. long, mounted on two four-wheel bogies. Most of the mechanism is on this trolley, including the diesel generator, the vibrating screen, and the means of disposing of the screenings and the cleaned ballast.

The excavating equipment is simple in design but very effective. It consists of an endless chain carrying scrapers, and this is guided in a triangular frame, the base of which passes below the sleepers and parallel to them. This horizontal member of the guide frame is slung from a small auxiliary bogie attached to the main trolley.

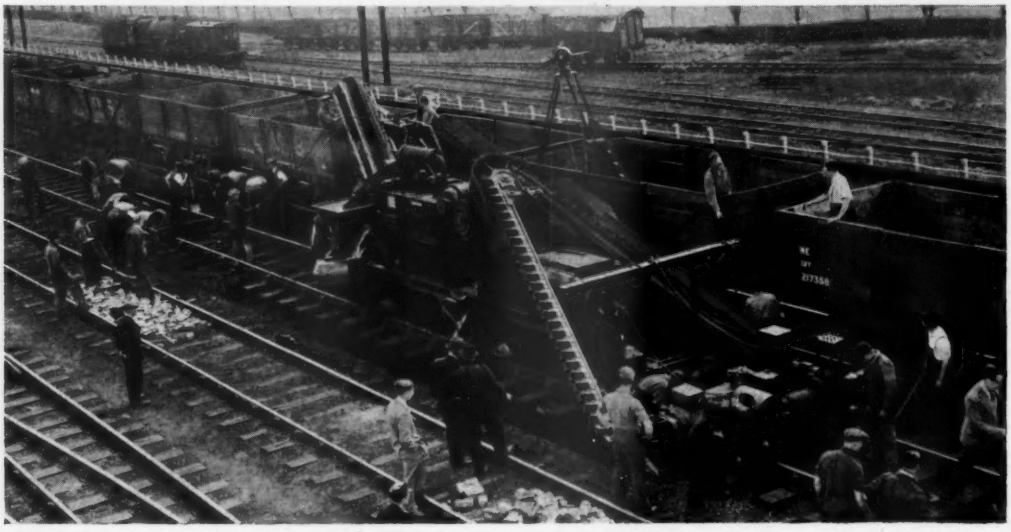
Two adjusting screws govern the vertical position of this member of the frame, and by means of them the digging depth can be controlled. The maximum digging depth possible with the machine is 36 in. below rail level. The sides of the triangular guide frame are tilted towards the rear and, sloping upwards, meet in a turret on the main body of the machine, in which there is a sprocket gear to actuate the scraper generally.

The vibrating screen which separates the waste from the good ballast is situated at the rear of the machine. This screen is tilted, and is vibrated rapidly automatically. It is made of coarse large-gauge wire, and is readily interchangeable so that any desired gauge or mesh can be used depending on the size of ballast it is desired to reclaim.

Two endless-belt-conveyor swivelling chutes are provided at the rear of the machine, one of which ejects the waste screening into wagons or at the track side, and the other deposits and spreads the cleaned ballast back again to the track.

The motion of the machine along the track when operating is achieved by a winch mounted on the auxiliary bogie at the front of the machine. The winding drum of this is attached to a steel hawser anchored some distance forward on the track.

The machine is mobile under its own power for travelling from depot to the site of operation at a speed of about 20 m.p.h. It is claimed by the maker that with a team of eight men, this machine can deal with about 130 lineal yards of track an hour.



A general view of the ballast cleaning machine in use

PENYCHAIN STATION IMPROVEMENTS, WESTERN REGION.—To cater for an expected increase in rail travel this summer to the holiday camp at Penychain, North Wales, British Railways, Western Region, are to improve the passenger accommodation at Penychain Station by widening the up platform and providing waiting room and lavatory accommodation. The scheme also includes the provision of a new loop line.

RE-OPENING OF BRIGHTON ELECTRIC RAILWAY.—The 2-ft. 8½-in. gauge Brighton Electric Railway, the first electric railway in Great Britain, which runs along the sea front for 1½ miles, from the Aquarium to Black Rock, was re-opened for regular traffic on May 15. The railway was laid out by the late Magnus Volk, and the first section, from the old Aquarium to the Chain Pier, was opened on August 3, 1883. It was extended to Paston Place on April 4, 1884, and to Black Rock on February 21, 1901. The railway was taken over by the Brighton Corporation Transport Department on April 1, 1940, and was closed, as a wartime measure, on July 2 of that year.

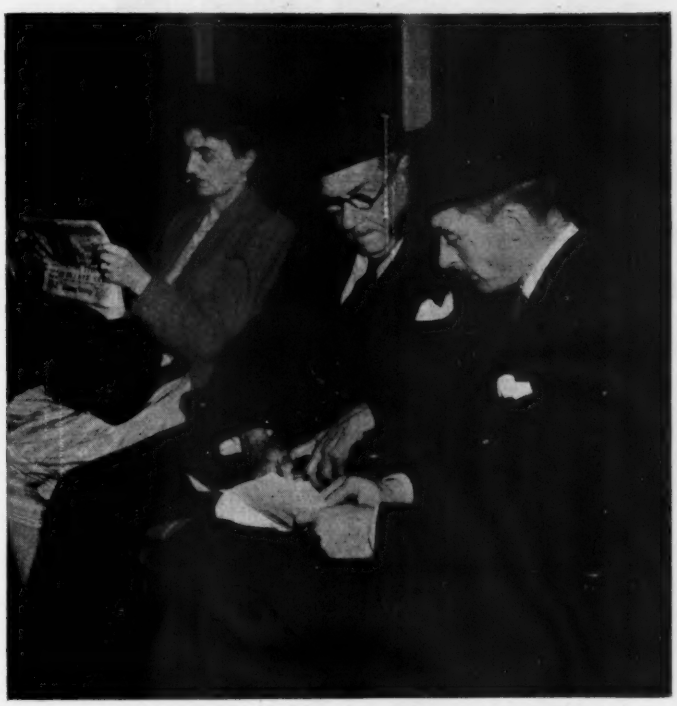
R.C.T.S. DINNER.—A very pleasant annual dinner was held by the Railway Correspondence & Travel Society at Pinoli's Restaurant, London, on May 22, under the Chairmanship of Mr. George R. Grigs. This marked the 20th birthday of the Society in its present form. At the close of 1947, the membership stood at 2,125, a figure never before attained, and there was a waiting list of over 150, as membership is restricted by the number of copies of *The Railway Oberver* it is possible to print. The toast of British Railways was proposed by Mr. H. N. Janes, and replied to by Mr. D. S. M. Barrie, M.B.E., Assistant Advertising & Publicity Officer, London Midland Region. Mr. J. N. Maskelyne, President of the Stephenson Locomotive Society, proposed the continued success of the Railway Correspondence & Travel Society, to which the Chairman replied.

ZONAL SCHEME ON SOUTHERN REGION.—Zonal collection and delivery services in an area based on a railhead at Redhill, with sub-railheads at Dorking North, Epsom, and Oxted, will be introduced on June 1. The places include Horley, Leatherhead, Edenbridge, and Lingfield.

Sir Cyril Hurcomb's Tour of the Underground

A STUDY of conditions during the rush hour on the London Underground was made by Sir Cyril Hurcomb, Chairman of the British Transport Commission, Lord Ashfield, Lord Rusholme and Mr. John Benstead, Members of the B.T.C., who were accompanied by London Transport officers, on May 18. The itinerary followed included a visit to the Bank and to Liverpool Street, where the party watched interchanging between the Central Line and Inner Circle. The main objective, however, was the West End, still the most congested area in spite of staggered hours, a full bus service, and a frequent service of trains running to schedule. The picture below, showing Sir Cyril Hurcomb watching the queues outside Oxford Circus Station at 5.30 p.m., illustrates the point.

The aim of the visit was to see if there were any possibility of taking further measures to speed the traffic from a technical point of view. The question is, we understand, now being closely studied by Mr. A. B. B. Valentine, Member of the London Transport Executive in charge of operation, Mr. Gordon Maxwell, Operating Manager (Railways), L.T.E. (both seen in picture below), and other London Transport officers. Later closing of West End stores, to which managements have not so far agreed, is still under consideration as one method of spreading the load on the passenger services, as reported on page 642.



Sir Cyril Hurcomb and Mr. Gordon Maxwell, Operating Manager (Railways), L.T.E., studying reports in an Underground carriage

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EXTENSION FOR BUENOS AIRES UNDERGROUND SYSTEM.—The Argentine Government, Reuters reports, has authorised the Ministry of the Interior to study and carry out the construction of new underground railway lines, and to extend existing lines in the city of Buenos Aires. The sum of ps. 100 million has been assigned for the undertaking. *The Review of the River Plate* suggests that the appropriation is only the "first instalment towards the total cost of the undertaking." An extension of existing lines would make the traffic even heavier, and extremely costly alterations and improvements to the stations in and near the centre then would become imperative.

Watching the rush-hour crowds outside Oxford Circus Station at 5.30 p.m. Left to right: Mr. A. B. B. Valentine, Member of London Transport Executive in charge of all operation; Mr. A. L. Day, District Traffic Superintendent, Central Line; Sir Cyril Hurcomb, Chairman of the British Transport Commission; Lord Ashfield, Member of the B.T.C.; and Mr. Gordon Maxwell, Operating Manager (Railways), L.T.E.

L.M.R. Instructional Film for Firemen

A "still" from the London Midland Region instructional film on locomotive controlled firing, to which reference was made in our May 14 issue

A view of the driver from the film, which is being used in the education of footplate men, and is being exhibited at locomotive depots

RAILWAY NEWS SECTION

PERSONAL

Sir Frederick Bain, President of the Federation of British Industries, recently left by air for Canada. He has accepted invitations to speak at the annual general meeting dinner of the Canadian Manufacturers' Association, and to attend the official opening of the Canadian International Trade Fair at Toronto. Sir Frederick Bain visited Canada a year ago at the invitation of the Canadian Minister of Trade & Commerce. As on that occasion, Sir Frederick is again accompanied by Mr. Moir Mackenzie, Deputy Director-General of the F.B.I. Sir Frederick Bain is afterwards visiting Washington and intends to return home in mid-June.

Mr. T. J. Aldridge has been appointed Chief Continental Engineer, and Mr. C. F. D. Venning, Chief Signal Engineer, of the Westinghouse Brake & Signal Co. Ltd.

We regret to record the death on May 21, at the age of 74, of Sir Murray Morrison, a pioneer of the production of aluminium in this country. He was a director of the British Aluminium Co. Ltd. from 1927 to 1947, when he resigned from the board, having been in the company's service for 52 years. He retired from the Managing Directorship in 1945, but retained the Deputy-Chairmanship until 1947.

Mr. E. H. Ball, Managing Director of the British Thomson-Houston Co. Ltd., has been elected a Director of Associated Electrical Industries Limited.

We regret to record the death on April 24 of Captain C. F. Wells, Port Accountant, Kenya & Uganda Railways & Harbours, aged 49.

Mr. A. F. S. Lewis has been appointed Traction Superintendent, Entre Rios Railways and Argentine North Eastern Railway.

DOCKS & INLAND WATERWAYS EXECUTIVE

Arrangements have been made by the Docks & Inland Waterways Executive of the British Transport Commission to reduce the number of waterways divisions from five to four, exclusive of Scotland. The separate organisations inherited from the previous owners cease to exist, and within each division the administration is being unified under a Divisional Waterways Officer, responsible to the Executive, as under:—

North Eastern: Mr. H. B. Emley (headquarters, Leeds).

North Western: Mr. C. M. Marsh (headquarters, Northwich, later at Liverpool).

South Western: Mr. A. C. Lisle (headquarters, Gloucester).

South Eastern: Mr. C. Saywood (headquarters, London).

Further details are given elsewhere in this issue.

Mr. David Ritchie Lamb, M.I.Loco.E., M.I.R.S.E., M.Inst.T., who, as recorded in our last week's issue, has been elected to succeed Mr. T. W. Royle as President of the Institute of Transport, on October 1 next, is Editor of *Modern Transport*. Mr. Lamb has been an active supporter of the Institute of Transport since its earliest days; he was elected a Foundation Member in 1919, was awarded the Road Transport (Passenger) Gold Medal in 1925, and was a Member of Council from 1934 to 1937. He has contributed six papers to the *Proceedings* of the Institute, including the Silver Jubilee Commemorative Paper written at the invitation of the council, and was a member of the committee of the Metropolitan Section. Mr. Lamb was appointed as a junior in the General Manager's Office, Great Central Railway, in 1903, and was selected three years later, after competitive examination under the company's higher grade staff scheme, for a four years course of training in all departments of the railway. Returning to headquarters in 1913, he was engaged on special work and investigations for the General Manager, and two years later obtained his release for military service. After a period as an Equipment Officer in the Royal Flying Corps, he was transferred to the Salonika front, where he served as a Railway Operating Officer, Royal Engineers. Returning to the railway in 1919, he accepted a position, in July of that year, as Associate Editor of *Modern Transport*, succeeding to the Editorship four years later and becoming a Director of the Modern Transport Publishing Co. Ltd. in January, 1936. In September, 1939, his services were lent to the Ministry of Food in the capacity of Deputy-Director of Transport, and thereafter he was responsible, under the Director, for administration and represented the Ministry on various inter-departmental committees. In 1946 he became Director of Transport, but he was released from the service a year later to resume his business and journalistic activities. Mr. Lamb attended Manchester University, and was one of the earliest railway students at the London School of Economics, where he was awarded the Brunel Medal. From 1912 to 1914 he lectured on railway subjects at Nottingham University College and elsewhere, and during the recent war was a staff lecturer on transport at the Ministry of Food. He is the author of several textbooks on transport, and is a Member of the Institution of Locomotive Engineers, the Institution of Railway Signal Engineers and the Institute of Journalists.

Mr. D. R. Lamb

Elected President of the Institute of Transport for 1948-49

Mr. W. S. Spicer has retired from the position of Local Director of Hadfields Limited at East Hecla Works, Sheffield.

Mr. Ernest Gysel, Manager of the Locomotive Department, Swiss Locomotive & Machine Works, Winterthur, has retired, but his services will continue to be at the company's disposal in an advisory capacity. Mr. Gaston Borgeaud has been placed in charge of the technical management, and Mr. Antoine Mayer in charge of sales, of the Locomotive Department, and both have been appointed Vice-Presidents.

WESTERN REGION APPOINTMENTS

The following appointments are announced in the Western Region, British Railways:—

Mr. E. P. Platt to be General Assistant to the Surveyor & Estate Agent, Paddington.

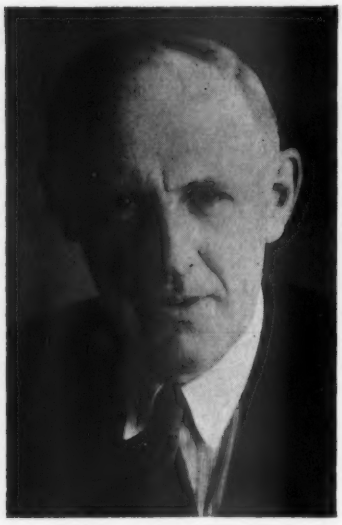
Mr. R. F. Foley, Goods Agent, Brentford, to be Goods Agent, Smithfield.

Mr. T. Bryant, Assistant Goods Agent, Bristol, to be Goods Agent, Brentford.

Mr. J. Noel Phillipps, M.C., F.R.G.S., M.Inst.T., Operating Manager, Scotland, L.M.S.R., until December 31, 1947, who retired on April 30, had intended to retire on December 31 last, but agreed to remain in the railway service for a few months during the transition period. He was educated at St. Paul's School, and joined the L.N.W.R. as a probationer in 1905. After an extensive training at various stations and in the District Superintendent's Office, Euston, he was, in 1913, appointed an Outdoor Assistant to the Superintendent of the Line. During the 1914-18 war he was Officer Commanding the 43rd Railway Operating Company,

Mr. J. N. Phillipps

Operating Manager, Scotland, L.M.S.R., 1937-47



Mr. F. W. Abraham

Appointed Motive Power Superintendent, L.M. Region, British Railways

Mr. F. R. Stockdill

Appointed Accountant, Southern Region, British Railways

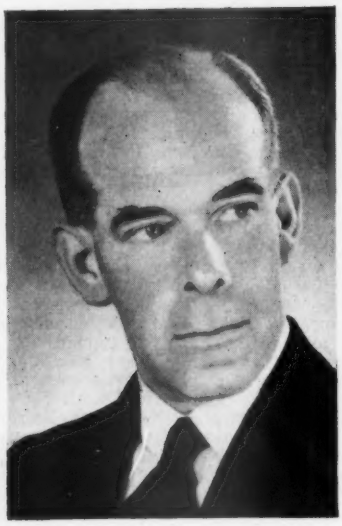
Royal Engineers, and was awarded the Military Cross. On his return he was appointed Assistant to the District Superintendent, Manchester, and subsequently received appointments as Assistant District Traffic Superintendent, Chester (1922); District Controller, Chester (1928); Divisional Controller (Passenger Services), Crewe (1930); and Assistant General Superintendent, Northern Division (1931). He was appointed Operating Manager, Scotland, in 1937. Mr. Phillipps' family has had a connection with railways practically since their inception. He himself is a nephew of the late Mr. William Douglas Phillipps, who was General Manager of the North Staffordshire Railway from 1882 to 1919, and who died in 1932 at the age of 93. Mr. W. D. Phillipps' brother, Michael Phillipps, "blazed the trail" of the Crow's Nest Pass over the Rocky Mountains over which the Canadian Pacific Railway now runs, and a town in Kootenay bears the name of Phillipps. A short history, "A Winter Trip on the Canadian Pacific Railway, Christmas and New Year in the Snow, 1885-6," was written by Michael Phillipps.

Mr. F. W. Abraham, M.I.Loco.E., A.M.Inst.T., Assistant Superintendent of Motive Power, London Midland Region, British Railways, who, as recorded in our May 21 issue, has been appointed Motive Power Superintendent, was educated at Dover College, and joined the Great Western Railway in 1905, serving his pupilage at Swindon works until 1911, when he joined the Midland Railway and became an improver at Derby running shed. In July, 1912, Mr. Abraham was appointed Shed Foreman at Kettering, and, later in the same year, Acting District Locomotive Superintendent, Worcester. He was appointed in the same capacity in 1913 to Derby and in 1914 to Plaistow. In the 1914-18 war he saw active service with H.M. Forces from November, 1914, until July, 1919, serving first as a Captain in the Railway Transport Establishment in France, and later as a Major in command of a field battery in the Royal Field Artillery. On demobilisation in 1919 Mr. Abraham returned to Plaistow as District Locomotive Superintendent, a position he held until 1929, when he was appointed Assistant to Superintendept of Motive Power, Manchester. He was appointed in the same capacity to Derby in 1933, and to Euston in March, 1934. He became Assistant Divisional Superintendent of Operation, Manchester, L.M.S.R. (Central Division), in October, 1934, and on January 1, 1940, was appointed Assistant Divisional Superintendent of Operation, Crewe (Western Division). He became Assistant Superintendent of Motive Power, L.M.S.R., on July 1, 1943.

Mr. F. R. Stockdill, who, as recorded in our May 7 issue, has been appointed

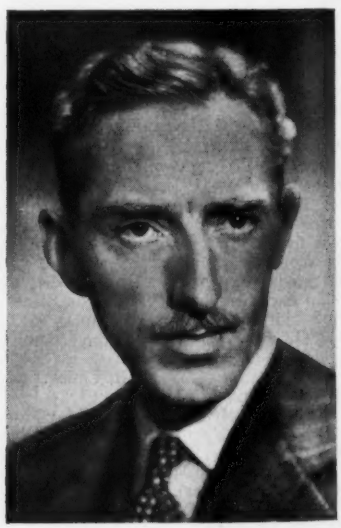
Mr. W. J. A. Sykes

Appointed Assistant Electrical Engineer, Southern Region, British Railways



Mr. J. Powell

Appointed Assistant to Commercial Superintendent, Western Region, British Railways



Mr. J. R. Hammond

Appointed Personal Assistant to Chief Engineer, Western Region, British Railways

Accountant, Southern Region, British Railways, entered the service of the L.S.W.R. in 1921. After three years in the Locomotive Department he was transferred to the Chief Accountant's Office, after the formation of the Southern Railway. In December, 1940, Mr. Stockdill was seconded to the Transportation Accounts branch of the Ministry of Supply. He was released from his duties with the Ministry in April, 1943, and in November of the same year was appointed Special Assistant to the Chief Accountant, Southern Railway, of which company he was made Assistant Accountant in April, 1946.

Mr. W. J. A. Sykes, A.M.I.Mech.E., who, as recorded in our February 20 issue, has been appointed Assistant Electrical Engineer, Southern Region, British Railways, was educated at Westminster School and King's College, London. After serving apprenticeships with J. Stone & Co. Ltd., the Westinghouse Brake & Signal Co. Ltd,. and the London Underground Railways, he joined the Southern Railway in 1930 as a draughtsman in the Electrical Engineer's (New Works) Department. In 1935 he became a Technical Assistant to the then Rolling Stock Assistant, and gained experience in the design and testing of electric rolling stock for the extensions of electrification carried out by the Southern Railway between 1935 and 1939. On the outbreak of war he became Assistant to the Central Divisional Rolling Stock Engineer, but he was recalled to the head office in 1941 in connection with design work on electric locomotives. In 1943 he was appointed Rolling Stock Assistant to the Chief Electrical Engineer, which position he held at the time of taking up his new appointment.

Mr. J. Powell, who, as recorded in our April 23 issue, has been appointed Assistant to Commercial Superintendent, Western Region, British Railways, at Paddington, entered the service of the Great Western Railway at Cardiff Goods Station in 1920. After serving in the Plymouth and Exeter Districts he was appointed Junior Assistant to the London District Goods Manager in 1935. Two years later Mr. Powell became Chief Clerk to the London District Goods Manager, and in 1943 Acting Goods Agent at Smithfield Station. Later in the same year he was appointed Assistant District Goods Manager, Swansea, and in 1946 returned to Paddington as Assistant District Goods Manager, London.

Mr. J. R. Hammond, M.B.E., B.Sc., A.M.I.C.E, who, as recorded in our April 23 issue, has been appointed Personal Assistant to the Chief Engineer, Western Region, British Railways, was a pupil of a former Chief Engineer from October, 1934, entering the railway service as surveyor and draughtsman in October, 1937. After employment on several new works schemes, and a period on loan to the Ministry of Aircraft Production, he returned to the Chief Engineer's Office in February, 1941. He was Resident Engineer on several works carried out as war measures until joining H.M. Forces in October, 1942. He attained the rank of Major, and was awarded the M.B.E. (Military Division) and mentioned in despatches while serving in Italy. Mr. Hammond returned to the railway service in February, 1946, as Assistant in the Divisional Engineer's Office, Bristol. He went to Neath as Assistant Divisional Engineer in June, 1947, the post he now vacates on promotion to Paddington.

Institution of Locomotive Engineers

The Council of the Institution of Locomotive Engineers for the session 1948-49 (commencing June 1) is as follows:—

President: Lt.-Col. H. Rudgard.

Past-Presidents: Messrs. W. A. Agnew, J. R. Bazin, O. V. S. Bulleid, Lt.-Col. F. R. Collins, Mr. W. S. Graff-Baker, Sir William A. Stanier, Messrs. J. S. Tritton, F. Seymour Whalley, R. H. Whitelegg, Major Charles Williams.

Vice-Presidents: Messrs. R. C. Bond, K. J. Cook, A. H. Peppercorn, J. F. B. Vidal, W. L. Watson, W. Cyril Williams.

Members of Council: Messrs. J. F. Alcock, A. Campbell, C. M. Cock, E. S. Cox, E. Graham, J. F. Harrison, Ranald J. Harvey, M. S. Hatchell, H. Holcroft, W. G. Hornett, L. J. Le Clair, J. H. P. Lloyd, W. F. McDermid, H. W. H. Richards, E. A. Robinson, R. A. Smeddle, C. E. Spurgeon.

Mr. P. R. Boulton has retired from the post of Electrical Engineer (Distribution), Department of the Chief Engineer, London Transport Executive. He was formerly Chief Electrical Engineer, Metropolitan Railway, a position he held when the L.P.T.B. was formed in 1933, after which his title became Electrical Engineer (Neasden). In 1937 he became Electrical Engineer (New Works), and in 1939 Electrical Engineer (Distribution).

We regret to record the death on May 20, at the age of 63, of Mr. Rupert Richard Bury, who was for 25 years Manager of the Bombay Office of J. Stone & Co. Ltd., and who for several years also represented the Superheater Co. Ltd. in India.

The council of the Institute of Transport has approved the constitution of the members in Berkshire, Buckinghamshire and Oxfordshire as a local section, of which Mr. W. J. Evans (General Manager, Reading Corporation Transport) is the first Chairman. It has also approved the reconstitution of the Hull & District and Sheffield & District Centres of the Yorkshire Section as the Humberside and Sheffield & District Sections, respectively. Mr. H. R. Caulfield-Giles is the first Chairman of the Sheffield & District Section, and Mr. H. Hodson of the Humberside Section. Mr. F. A. Pope (Chairman, Northern Ireland Road Transport Board) has been elected Chairman of the Northern Ireland Section of the Institute for the 1948-49 session.

Presentations to Mr. L. C. Glenister and Mr. W. J. Sawkins

At a recent meeting of the Railway Executive Accountants' Committee presentations were made to Mr. L. C. Glenister and Mr. W. J. Sawkins, who, as already recorded, have retired from the positions of Chief Accountant of the London & North Eastern Railway and Southern Region respectively. In making the presentations, which for Mr. Glenister took the form of a pair of binoculars and for Mr. Sawkins a telescope, the Chairman of the Accountants' Committee, Mr. C. R. Dashwood, referred to the valuable assistance which their former colleagues had given towards the solving of the many problems with which the Accountants had had to wrestle during the last nine years; and, in wishing them on behalf of past and present members and representatives of the Accountants' Committee a long and happy retirement, suggested that their individual choice of gift indicated their desire to continue to take a "long view." Tributes were also paid by Messrs. G. Morton (Chief Financial Officer, Railway Executive), P. G. James (Chief Accountant, London Transport Executive), R. G. Davidson (former Chief Accountant, Southern Railway), T. J. Lynch (Secretary, Railway Clearing House), and A. G. Pollard (Secretary, Accountants' Committee).

Protection of Engineers' Interests

In a memorandum addressed to all chartered civil, mechanical and electrical engineers, the Engineers' Guild, which is seeking registration under the Companies Acts, states that many engineers feel the need for an organisation powerful enough, and properly equipped, to protect their professional interests; that the status of the profession is unsatisfactory now; and that, if there is to be a remedy, it is for engineers themselves to provide the wide and united support required for effective action.

The Engineers' Guild, which in February and March last sent copies of the memorandum to 9,000 members of the Institutions of Civil, of Mechanical and of Electrical Engineers, and plans to send during the next two months copies to a further 26,000 members, claims that it is the only professional association able to undertake the task. The memorandum states that the great engineering institutions fully recognise the need, but that such a task is beyond the scope of their charters; their concern is primarily with engineering, but the Guild's is with the interests of engineers and their relationship to the community.

The Guild aims to give immediate attention to the following points:—

(1) Representation of the engineering profession at the highest levels of planning, control and direction.

(2) Acceptance of engineers as eligible candidates for the most responsible administrative posts.

(3) Protection of the public from unqualified practitioners, and reservation of work for those qualified to do it.

(4) Recognition and adequate remuneration of the services of engineers at all levels.

The General Council of the Engineers' Guild for 1947-48 is composed as follows:—

Messrs. Robert Chalmers, O.B.E., B.Sc., M.I.C.E., M.I.Mech.E. (Chairman); C. J. S. Anderson, B.Sc.(Eng.), A.M.I.C.E.; J. G. Bentley, B.Sc.(Eng.), A.M.I.E.E.; G. R. Blakely, B.Sc. (Eng.), A.M.I.C.E., A.M.I.Mech.E.; C. F. Bolton, A.M.I.E.E.; O. V. Bulleid, M.I.Mech.E. (Past-President, Institution of Mechanical Engineers); C. L. Champion, A.C.G.I., B.Sc.(Eng.), A.M.I.C.E., A.M.I.E.E.; Bryan Donkin, B.A. (Cantab.), M.I.E.E.; W. S. Graff-Baker, A.C.G.I., B.Sc., M.I.Mech.E.; E. W. Greensmith, A.C.G.I., B.Sc., A.M.I.Mech.E. (Associate Member of Council, Institution of Mechanical Engineers); V. B. Harley-Mason, A.C.G.I., M.I.C.E., M.I.Mech.E.; D. B. Hoseason, M.I.Mech.E., M.I.E.E. (Vice-President, Institution of Electrical Engineers); G. Howard Humphreys, M.A., M.I.C.E. (Member of Council, Institution of Civil Engineers); Forbes Jackson, M.I.E.E.; J. W. Moffat, A.M.I.E.E.; Cecil Peel, B.Sc., M.I.C.E.; A. S. Quartermaine, C.B.E., M.C., B.Sc.(Eng.), M.I.C.E. (Member of Council, Institution of Civil Engineers); J. Rawlinson, M.Eng., M.I.C.E., M.I.Mech.E.; S. A. Smith, A.M.I.Mech.E.; J. W. J. Townley, C.B.E., M.I.E.E.; J. H. W. Turner, B.Sc., B.Sc.(Econ.), A.M.I.C.E.; Leslie Turner, B.Sc., M.I.C.E.; R. M. Wynne-Edwards, O.B.E., D.S.O., M.C., M.A., M.I.C.E.

The address of the Guild is 28, Victoria Street, London, S.W.1.

Transport Bill for Northern Ireland

Constitution of an authority with powers to provide internal transport and shipping services in connection therewith

The text of the Transport Bill for Northern Ireland was issued on May 15, as reported briefly in our May 21 issue. It contains the Government's proposals for the provision of an "efficient" and "properly integrated" system in Ulster, and the main feature is the setting up of a Transport Authority—a £10,000,000 public utility undertaking—with powers to raise money by the issue of Ulster Transport stock and other means. The existing Road Transport Board is to be dissolved, and the Belfast & County Down Railway is to be transferred to the authority and eventually wound up (see our January 23 issue).

The authority will have powers to terminate a transport service on any railway line, but if such a proposal is objected to, the railway undertaking must obtain an order from a new Transport Tribunal approving the proposal before proceeding to terminate the service.

The authority will consist of five to ten paid members appointed by the Minister of Commerce. It will be a corporate body and will have power to appoint a secretary and other officers and servants as may be necessary. All the money borrowed will be repayable within a period not exceeding 80 years, and interest on stock will be fixed by the authority with the approval of the Ministries of Finance and Commerce. The Ministry of Finance will act as guarantor.

Powers to Provide Shipping Services

It will be the general duty of the authority to provide an efficient and economical transport system, meeting costs out of revenue and presenting a report to Parliament each year. The authority is to have power to carry goods and passengers by rail, road, and inland waterway within Northern Ireland. For the purpose of providing services outside Northern Ireland in connection with its internal services, it is to have power to provide shipping services to and from Ulster. The Bill enables the authority to enter into agreements with carriers of passengers or goods inside or outside Northern Ireland whether in relation to traffic originating in Northern Ireland or not.

The authority is being empowered to conduct hotel and refreshment services carried on by any transport undertaking that is acquired by, transferred to, or vested in it. It is to carry on the activities previously conducted by the Transport Board, or railway undertakings that come within its jurisdiction. Provision is made also for the right to buy or lease land. When agreement cannot be reached, the authority will have power to acquire land compulsorily by way of vesting orders that may on application be made by the Ministry of Commerce.

On an appointed day the undertakings of the Road Transport Board and the Belfast & County Down Railway Company will be transferred to the authority. The board will be dissolved and provision is made for the eventual winding up of the railway company. In the case of the railway, compensation will amount to £485,989 9s. 5d., and the liabilities of the board to the Ministry of Finance in respect of Transport stock and loans will be discharged by the payment by the authority of £3,025,000.

The authority may, by arrangement, acquire and/or operate on such terms as may be agreed any rail or other undertaking wholly or partly operated in Northern Ireland, or providing transport facilities outside Northern Ireland in connection with transport facilities within Northern Ireland. Any arrangement for this purpose is subject to the approval of the Ministry of Commerce and cannot become effective until it has been confirmed by a resolution of each House of Parliament.

Restrictions imposed under the 1935 Road & Railway Act (Northern Ireland) regarding the use of motor vehicles to carry for reward passengers, luggage, or merchandise are to be continued. Exemptions from these restrictions include the Londonderry & Lough Swilly Railway; hotel proprietors using motor vehicles for the transport of guests or luggage from or to railway or bus stations or aerodromes; furniture removers and funeral furnishers; hackney carriages; and carriers collecting or delivering within Belfast and Londonderry County Boroughs.

Provision is made also for the authority to take any steps for the purpose of advancing the skill of employees or the efficiency of equipment; and to assist with facilities for training, education, and research. It will have power to provide financial or other assistance for associations, bodies, funds, or schemes contributing to the health or welfare of employees, former employees, and dependants of such employees. The power to appoint transport police also is given to the authority.

It is expected that Major F. A. Pope, Chairman of the Road Transport Board and Transport Adviser to the Minister of Commerce, will be Chairman of the new authority. Probably the biggest problem to be faced will be that of bringing the Great Northern Railway within the framework of the new system. Straddling the Ulster-Eire border, and with its headquarters in Dublin, the company is in a peculiar position.

B. & C.D. Acquisition Terms Criticised

First reactions to the Bill show that it will not have an easy passage through Parliament. Sir Milne Barbour, M.P., former Minister of Commerce, said that from a cursory glance at the Bill, he formed the opinion that the shareholders of the County Down Railway were being treated harshly. The Bill was making provision for the new authority to cut off the less-paying parts of the line. The Government was taking advantage of its position as law makers. It was hard luck on the shareholders of the railway that they should not have been allowed to make the best use of their assets. They had wanted to shut down the non-paying parts of their system, but the Government would not allow them, and consequently they were squeezed to such an extent as to be forced to sell at a bankrupt price. Sir Milne Barbour, who emphasised that he was not a shareholder, said that power was being denied to the railway that was being made available to the new authority. The rates of compensation to B. & C.D. stockholders are given in a schedule to the Bill, and were reported, also, in our January 23 issue.

Steps have been taken to reopen the issue concerning the proposed sale of the railway. Mr. Maurice L. M'Cracken, Honorary Secretary of the Shareholders' Protection Association, said that the association had obtained a requisition signed by an overwhelming majority of the stockholders for the purpose of calling an extraordinary general meeting to consider the matter. Both the Government and the directors had been informed of the stockholders' request.

One departure from the White Paper of January, 1946, is in regard to shipping services to and from Ulster which the authority will have power to provide. The position with regard to the former L.M.S.R. services is not made clear and it is not known whether the Ulster Government thinks that it ought to have the ships, while the Transport Commission in Great Britain would prefer to retain them; or whether the Government wish to take over only the L.M.S.R. (N.C.C.) railway system, while the commission wishes it to take both.

Preliminary talks in the negotiations for the acquisition of the railway system of the N.C.C. took place in January, when Sir Roland Nugent, the Minister of Commerce, saw Sir Cyril Hurcomb in London. Broad principles governing the transport undertaking were considered, and when these have been established technical talks will follow. A statement outlining the present position of the Northern Counties Committee was reproduced in our January 16 issue, page 88.

New Scandinavia-Switzerland Service

In our January 23 issue we reported the forthcoming introduction of the "Scandinavia—Switzerland Express," representing the operation of the former Stockholm—Basle section of the "Nord Express" as a separate train. This service came into operation with the introduction of the summer timetables on May 9.

The first through connection between Scandinavia and Switzerland after the recent war was begun on October 7, 1946, when a first and second class through coach, Copenhagen—Basle, and a sleeping car, Stockholm—Basle, were attached to the "Nord Express," then running three times a week between Copenhagen, Hamburg, Osnabrück, Cologne, and Paris. The two vehicles to and from Basle ran *via* Cologne and Strasbourg. At the request of the Swiss Federal Railways, they were diverted to the Cologne—Karlsruhe line as from May, 1947, when they began to operate daily. The "Nord Express" itself had been running daily from an earlier date. At the same time, third class accommodation was provided in the Stockholm—Basle coach.

Eventually, one through carriage (in addition to the sleeping car) proved insufficient to satisfy the demand for accommodation. Moreover, lack of space on the Korsor—Nyborg and Malmö—Copenhagen ferries used for the "Nord Express" and its Swedish extension made it impossible to add further carriages to the Swiss portion. At the last International Timetable Conference it was decided to run the Swiss portion of the "Nord Express" as a separate train, thus enabling the number of vehicles to be adapted to fluctuations in traffic. Moreover, the train has been extended from Basle to Zurich, and to Lucerne from June 15 to September 10.

The through coaches consist of a sleeping car, Stockholm—Basle—Zurich; a sleeping car, Copenhagen—Basle (extended to Lucerne between June 15 to September 10), a first and second class carriage, Copenhagen—Basle—Zurich; and a third class carriage, Copenhagen—Basle—Zurich (Copenhagen—Basle—Lucerne from June 15 to September 10). Dining cars are attached to the

train between Nyborg and Hamburg; and Frankfort and Basle.

The train leaves Oslo and Stockholm at 8.18 p.m. and 9.20 p.m. respectively, and the departure of both sections combined from Copenhagen is on the following morning at 10.45. Hamburg is left at 10.29 p.m., and the arrival times at Basle, Zurich, and Lucerne are 6.13 p.m., 9.1 p.m., and 8.30 p.m. respectively. Departures from Lucerne and Zurich are at 9.39 a.m. and 10.5 a.m. respectively, and the combined sections leave Basle (Swiss Federal Railways Station) at 11.40 a.m. Arrivals at Hamburg, Copenhagen, Stockholm, and Oslo are timed for 7.50 a.m., 7.25 p.m., 8.40 a.m., and 9.15 a.m. respectively.

Further Conference for Locomotive Shed Masters

Details of an Eastern Region locomotive shed masters' conference, which probably was the first meeting of its type ever to be held, were recorded in our April 23 issue. A second conference, this time attended by the majority of locomotive shed masters from the Western Section of British Railways, Eastern Region, was held at St. Ronans staff training centre, Hadley Wood, from May 11 to 13 and again has proved highly successful.

Mr. G. A. Musgrave, Locomotive Running Superintendent, Western Section, Eastern Region, opened the conference and the closing session was attended by Mr. C. K. Bird, Chief Regional Officer, Eastern Region, and Mr. H. Rudgard, Chief Officer (Motive Power), Railway Executive. Mr. Bird spoke of the new organisation under nationalisation, and personal comment and discussion on the papers were given by Mr. Rudgard. The need for close collaboration between the operating and locomotive running superintendent's departments was emphasised in an address by Mr. H. C. Johnson, Operating Superintendent, Western Section.

Papers read before the conference were as follow:—

"Turnround of Engines," by Mr. R. Robson, A.M.I.Loco.E., Senior Technical Assistant to Locomotive Running Superintendent, Eastern Region, Western Section.

"Provision of Power," by Mr. J. Jenkins, Chief Locomotive Inspector to Locomotive Running Superintendent, Eastern Region, Western Section.

"The Staff Angle," by Mr. H. Stopford, Staff Assistant to Locomotive Running Superintendents, Eastern Region (Eastern and Western Sections).

"Locomotive Shed Management," by Mr. J. L. Smith, Locomotive Shed Master, Grantham.

"Trimming and Lubrication of Locomotives," by Mr. A. G. Dixon, Head Office Locomotive Inspector.

"The Care and Attention of Locomotive Boilers," by Mr. B. Adkinson, District Locomotive Superintendent, Eastern Region, Western Section.

"Notes on a Shed Servicing Scheme," by Mr. R. Robson, A.M.I.Loco.E.

"Engine Casualties and Failures," by Mr. J. W. Peck, A.M.I.Loco.E., Technical Assistant to the Locomotive Running Superintendent, Eastern Region, Western Section.

British Railways Experimental Liveries

During the summer fourteen trains in experimental colour schemes will run on main-line and cross-country routes to give the public an opportunity of seeing the proposed liveries and expressing preferences. The official descriptions of the colours chosen for trial are:—

Most powerful express passenger engines	Blue, with lining of red, cream and grey
Other express passenger engines	Green, with lining of red, cream, and grey
Mixed-traffic engines ...	Black, with lining of cream, red, and grey
Freight engines ...	Black
Main-line corridor trains	(*a*) Plum and spilt milk lined with bands of yellow-maroon-yellow separated by lines of spilt milk (*b*) Chocolate and cream lined with black and golden yellow
Local suburban trains...	Maroon, lined with golden yellow-black-golden yellow
Multiple-unit electric trains	Green

The routes on which the trains will run are: Kings Cross to Edinburgh; Liverpool Street to Yarmouth and Norwich; Euston to Glasgow and Wolverhampton; St. Pancras to Bradford; Paddington to Penzance, Bristol, and Swansea; Bournemouth West to Waterloo; Victoria and Cannon Street to Ramsgate; Leeds to Glasgow (*via* Newcastle); Liverpool Exchange to Newcastle; Glasgow to Aberdeen. Members of the public are invited to send their comments on the liveries to Box A, the Railway Executive, 222, Marylebone Road, London, N.W.1.

Parliamentary Notes

Railway Clearing System Superannuation Fund Bill

The Railway Clearing System Superannuation Fund Bill was read a second time in the House of Lords on May 12.

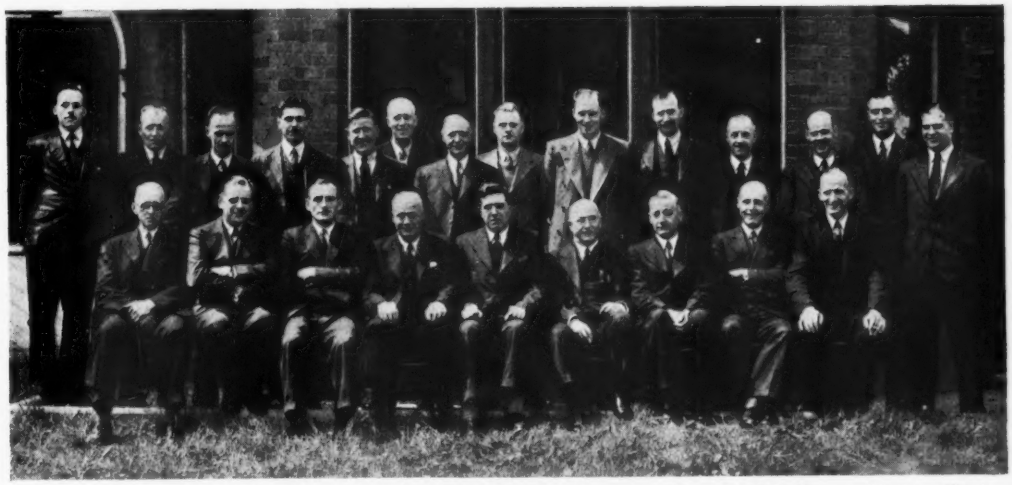
Questions in Parliament

Steel Allocation

Mr. E. A. Hardy (Salford South—Lab.) on May 13 asked the Secretary to the Treasury whether, as steel production was now running at an annual rate of 15 million tons, allocations of steel to consumers were to remain on the basis of the target of 14 million tons.

Mr. Douglas Jay (Economic Secretary to the Treasury): No, Sir; the main allocations are on a quarterly basis, and take full account of the expected supplies from home production and imports. The target of 14 million ingot tons for home production in 1948 was thought to be barely attainable, when fixed, but thanks to the strenuous and successful efforts of all concerned, the target rate has in recent weeks been exceeded. Owing to seasonal factors it is unlikely that the present rate can be maintained without interruption. There will be difficulties about raw materials, and there may be other limiting factors outside the control of the industry

The Second Eastern Region Locomotive Shed Masters' Conference



Group at the St. Ronans Staff Training Centre, Hadley Wood, during the British Railways, Eastern Region, Locomotive Shed Masters' Conference

Back row (*left to right*) : Messrs. E. S. Beaver, F. O. Young, G. A. Weeden, R. Langstaff, A. J. Somers, G. H. Robinson, C. W. Booth, E. L. Smith, K. Taylor, G. N. Balfour, W. G. Cherry, G. H. Darley, G. F. Hughes, J. W. Peck. Front row (*left to right*) : Messrs. J. A. Frampton, District Locomotive Superintendent, Kings Cross; George Dow, Press Relations Officer Eastern and North Eastern Regions; H. C. Johnson, Operating Superintendent, Western Section, Eastern Region; G. A. Musgrave, Locomotive Running Superintendent, Western Section, Eastern Region; C. K. Bird, Chief Regional Officer, Eastern Region; Harold Rudgard, Chief Officer (Motive Power), Railway Executive; H. Stopford, Staff Assistant to the Locomotive Running Superintendents, Eastern Region; H. H. Beastall, Locomotive Shed Master, Mexborough; C. G. Palmer, Assistant to District Locomotive Superintendent, Peterborough

itself. The Government intends to continue helping the industry in every way to maintain the present momentum; and in view of the promising start, and the imperative need for increasing supplies, the Government has decided to raise the target for home production in 1948 to 14½ million tons. The current allocations are already being made with this increase in mind, but also with due regard to the uncertainties about imports. I must make it clear however that in view of the increasing demands from essential consuming industries, there is as yet no prospect of any great easement of the general shortage.

Steel for Rolling Stock

Sir Patrick Hannon (Birmingham, Moseley—C.) on May 13 asked the Minister of Supply if he would inform the House on the latest arrangement made for the allocation of steel to builders of rolling stock; and if increased supplies could be made available for contracts in process in the building of power stations.

Mr. John Freeman (Joint Parliamentary Secretary, Ministry of Supply) in a written answer stated: There has been no change in the method of allocating steel to builders of rolling stock. The quarterly allocations are based on the manufacturers' estimates, checked against the Ministry's knowledge of their production programmes. The amount of building steel for power stations has been increased.

Transport of Nigerian Groundnuts

Lord Hailey in the House of Lords on May 12 asked His Majesty's Government whether, in view of the very large amount of groundnuts still awaiting transport in Nigeria, it had taken steps to furnish additional engines and wagons for the Nigerian railways.

The Earl of Listowel (Minister of State for Colonial Affairs): His Majesty's Government is extremely anxious to facilitate the removal of existing stocks of groundnuts in Nigeria, and an improvement in the delivery dates of certain orders has been secured. I am glad to be able to inform Lord Hailey that twenty locomotives are being shipped from this country during this week, and that seventy wagons are scheduled for delivery during the course of the current year. Other locomotives and wagons are on order, and everything possible is being done to expedite the execution of the orders.

Lord Hailey said that when he had left Nigeria about a month ago, there were estimated to be as much as 250,000 tons of groundnuts awaiting removal, and it was calculated that at the existing rate of removal it would take nearly a year, or perhaps eighteen months, to get them down to the port.

Viscount Swinton asked what proportion of the 300,000 tons crop of groundnuts had not been shifted, and whether he estimated that the whole of the existing overhang would have been shifted before the new crop had to be dealt with in the late autumn of this year.

Lord Llewellin: Are we to understand that these twenty locomotives are the first to be shipped to Nigeria after all this time? Has nothing yet reached there?

The Earl of Listowel: No; that is not the case. This is an instalment which is being sent out as a result of a special inquiry which was made at the end of last year during the visit to the Colony of Major-General Feilden, Vice-Quartermaster-General, who was asked to inquire into the problem of the accumulation of groundnuts. Lord Swinton asked two questions to which I am afraid that I cannot reply, since I was not given notice and they were not covered by the original question put down.

Viscount Swinton: Is it not a fact that the Nigerian Government, even before the end of the war, had warned His Majesty's Government of the urgent need for replenishing the rolling stock, wagons and engines on that railway if this great groundnut crop was to be shifted, and were not all the plans and needs before His Majesty's Government right back in 1945?

The Earl of Listowel: I will gladly reply to Viscount Swinton, giving him the details for which he has asked, as soon as I have been able to refer the matter to my advisers.

Lord Harlech: In view of this appalling position—only seventy wagons to go out now, when we want hundreds—would it be possible to reorganise the river services and use the short haul from Kano to Baro down the Niger, so that ships may be available to shift this vast quantity of oil seeds? If the nuts are not shifted, will it not have a most discouraging effect on native production for many years to come?

The Earl of Listowel: I can assure Lord Harlech that we have carefully examined the possibility of river transport, but the result of this examination has not encouraged us to adopt the view that the method is practicable.

Eastern Region Hygienic Booking Office Window

A hygienic booking office window based on the Hygiaphone developed by the French National Railways, which was described and illustrated in our February 27 issue, has been installed by the Eastern Region at Liverpool Street Station. The installation is experimental and forms part of the continuous joint research into protection of booking office staff by Mr. C. G. G. Dandridge, Commercial Superintendent of the Eastern Region, and the Medical Officer, Dr. J. Sharp Grant. Tests will include bacteriological examination.

The Eastern Region apparatus differs from the French window previously illustrated in that it is rectangular instead of oval in shape and has a central oval area in which the plastic protecting plates have not been perforated to admit sound, thus improving visibility. As in the French installation, the membrane between the plastic plates is made of taut Cellophane which scarcely impedes the passage of sound at all. Breath, smoke, fumes, and draught, however, are completely excluded.

STREAMLINE COACHES RESTORED TO TRAFFIC.—The coaches which formed the pre-war "Silver Jubilee," "Coronation" and "West Riding Limited" streamline expresses of the L.N.E.R. will appear again on May 31, when the British Railways summer train services come into operation. Still in their distinctive liveries, they will form part of main-line trains on the Kings Cross-Newcastle, Edinburgh-Glasgow, Newcastle-Edinburgh, Kings Cross-Edinburgh, Edinburgh-Aberdeen, Sunderland-Kings Cross, Manchester-Cleethorpes, and York-Yarmouth routes. The beaver-tail observation cars of the "Coronation" are not being used, neither are two twin-coach units damaged by fire in the war.

Germ-Resistant Booking Office Window

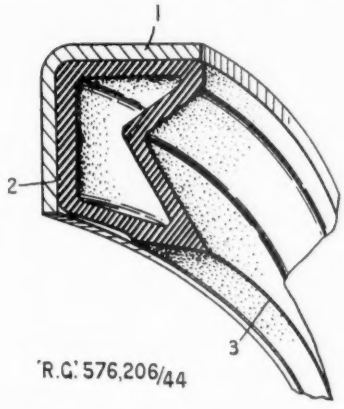
The new transparent plastic and Cellophane window installed at the west side suburban booking office, Liverpool Street Station, for the protection of staff against infection

ABSTRACTS OF RECENT PATENTS*

No. 576,206. Sealing Ring

Dunlop Rubber Co. Ltd., and H. J. Butler, of 1, *Albany Street, London, N.W.*1. (*Application date*: *April* 27, 1944).

A sealing ring for rotating shafts is made of an angular backing ring 1, carrying an



oil-resisting rubber packing ring 2, of hollow form and of the shape shown. The radius at the edge 3 is less than the radius nearer the backing ring, and the angle of the cross-section at this edge is made appreciably less than a right angle, thus giving a very flexible sealing of the shaft.

No. 576,243. Fuel Supply to Turbines

L. Haworth, of Grove Mansions, Burton Road, Derby. (*Application date*: *June* 24, 1943).

A control drive for supplying fuel to an internal-combustion turbine comprises a driven shaft 1, carrying a gear wheel 2, meshing with a similar wheel 3, on a hollow shaft 4, to form a gear pump for the fuel supply. A spring-loaded valve 5, normally prevents communication between chamber 6, connected to the delivery pipe, and chamber 7, connected to the inlet. The stem of this valve carries a piston 8, moving in a cylinder 9, to which pressure is applied from the delivery side, and from which it escapes through an adjustable spring-loaded main control valve to the inlet pipe.

When running, the pressure on the delivery side tends to open the relief valve 5 and escape, but this is opposed by a pressure on the piston 8, dependent on the extent of opening of the main control valve. The actual delivery pressure thus is dependent on the setting of the control valve, and the pump does not have to work continuously against a high pressure. The balls 10, together with the cones 11, 12, constitute a centrifugal governor for limiting the maximum speed of the turbine by drawing the shaft 13 towards the right and, at the limiting speed, relieving the pressure in the cylinder 9 through ports 14, 15, and a communicating duct.

No. 577,252. Shock-Absorbing Wagon

George Spencer, Moulton & Co., Ltd., and R. K. Glascodine, both of 13, 14, *Ashley Place, London, S.W.*1. (*Application date*: *April* 21, 1944).

The body of a wagon is mounted on rollers running in longitudinal channel girders built into the frame so as to be capable of lengthwise movement independently of the frame. At each corner of the body, a downwardly projecting lug extends between rubber cushioning blocks carried by the frame so as to absorb the shocks of buffing, etc. The body normally is located centrally by means of two opposed helical springs secured in a central position between it and the frame.

No. 580,660. Bearing Liners

The Glacier Metal Co. Ltd., and J. Bate, both of 368, *Ealing Road, Alperton.* (*Application date*: *July* 17, 1944).

A bearing liner is made of a steel backing strip on which a layer of pre-alloyed powder, containing 70 per cent. copper and 30 per cent. lead, is sintered. The resultant strip is rolled, to increase its density, and then passed beneath an indenting roller having 1,600 projections per sq. in., each of approximately ·025 in. dia. The dimpled surface is coated with lead, or a lead-base bearing metal, and is then machined to remove the excess metal and just to expose the sintered metal surface in which the indentations are now filled with lead. The lead in the bearing surface gives it reduced frictional properties and makes it suitable for use with soft shafts, whilst the sintered bearing metal gives it high fatigue resistance.

No. 576,000. Roller Bearings

R. F. Stallman, of 842, *Mandana Boulevard, Oakland, California, U.S.A.* (*Application date*: *November* 3, 1943).

The rollers of needle roller bearings, of either parallel or tapered form, have a short central portion of reduced diameter which co-operates with a projecting ridge around the bearing surface of the stationary race, so that no longitudinal displacement of the rollers is possible. The ridge may be replaced by a ring shrunk into position.

No. 575,858. Compressed Air Braking

Westinghouse Brake & Signal Co. Ltd., N. G. Cadman, and L. H. Peter, all of 82, *York Way, London, N.*1. (*Application date*: *April* 18, 1944).

In a compressed air system of braking, the air exhausted from the brake cylinders, when the brakes are released, is returned through a closed circuit to the intake of the compressor so as to avoid damp or dusty air being repeatedly drawn into the system. The compressor runs continuously and a pressure-controlled valve allows air to be drawn in through a filter if the pressure in the storage cylinder falls below a predetermined level. The compressor normally runs unloaded, except when brakes are used, owing to its intake being closed.

Complete Specifications Accepted

579,141. Parris, C. W., and Jenkinson, J. R. Method of cleaning fire tubes.

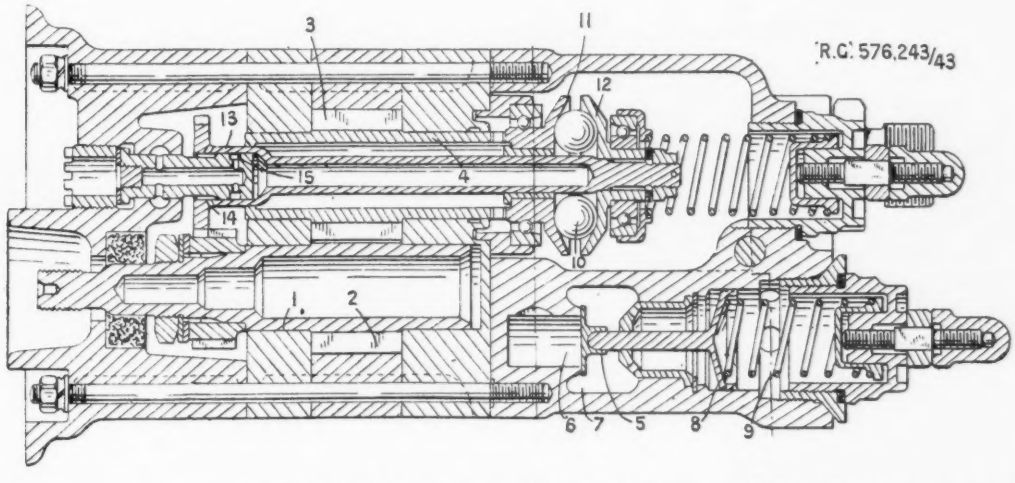
579,145. Shanks & Co. Ltd., and Shanks, G. M. Pipe coupling.

579,214. Derungs, E. A. Device for controlling brake application.

579,226. Dunlop Rubber Co. Ltd., and Hickman, J. C. Flexible shaft coupling.

579,229. Roulements à Billes Miniatures, S.A. Two-part cage for ball bearings.

579,267. Wilmot-Breeden Limited, and Gough, L. Fastening device for vehicle doors.



579,798. British Timken Limited, and Washbourne, W. D. Adjustable roller bearing.

579,838. Spooner, R. A. W. Quickly-detachable pipe or cable joint.

* These abridgments of recently published specifications are specially compiled for *The Railway Gazette*, by permission of the Controller of His Majesty's Stationery Office. Full specifications can be obtained from the Patent Office, 25, Southampton Buildings, London, W.C.2, price 1s. each

Notes and News

Chief Draughtsman Required.—A chief draughtsman (civil engineering) is required for the chief engineer's department of a British railway operating in Chile and Bolivia. See Official Notices on page 643.

Traffic Inspector Required.—A traffic inspector, between 23 and 35 years of age, is required by the Government of Nigeria for the railway department, for one tour of 18 to 24 months, with possible permanency. See Official Notices on page 643.

Hoffmann Manufacturing Co; Ltd.—There was a trading profit of £242,561 for 1947, as against £24,689 in 1946, although in that year a further £140,000 was recovered in respect of E.P.T. The dividend is being maintained at 7½ per cent. free of tax.

Stewarts and Lloyds Limited.—A net profit of £1,895,662 was shown by Stewarts and Lloyds Limited for 1947. In the previous year, the corresponding figure was £1,398,182. A dividend of 12½ per cent. is recommended on the deferred stock, which is the same as for the past ten years. On the liaison deferred shares, a dividend at the same rate relatively as on the deferred is recommended.

Chief Draughtsman Required for Nigerian Railway.—A chief draughtsman, between 32 and 36 years of age, is required by the Nigerian Railway. Candidates, who must be associate members of the Institute of Mechanical Engineers, should have served an apprenticeship in the works of a home railway or a firm of locomotive builders and have had 8 to 10 years' experience in a locomotive drawing office at home or in the drawing office of a colonial railway. See Official Notices on page 643.

Institute of Transport Conference at Derby.—A conference, limited to 50 members, is being arranged at the School of Transport at Derby for the week-end of September 10-13, 1948, and a committee has been appointed, to prepare and carry out the programme, comprising Mr. W. Donaldson Wright (Chairman), Mr. J. H. Bowyer, Mr. J. Forster, Mr. L. S. Kettle, Brigadier L. Manton and Mr. H. G. Morley. Members who desire to be notified of the particulars of the conference are asked to notify the Secretary of the Institute of Transport.

Metropolitan-Cammell Rolling Stock Exports.—Speaking at the general meeting of Cammell Laird & Co. Ltd., the Chairman & Managing Director, Sir Robert S. Johnson, referred to the inclusion in the company's accounts of the results of the Metropolitan-Cammell Carriage & Wagon Co. Ltd. That company, he said, had had a very successful year, and the extent of its order book would keep it going for several years. Though it had continued to make important contributions to the supply of wagons for this country and third class coaches for the home railways, actually the pressure had been more on deliveries for abroad. Large numbers of railway vehicles for Argentina, Brazil, South Africa, Rhodesia, Egypt, and the Crown Colonies were planned for production in 1948 and following years. The company was producing large numbers of bus bodies and had very large orders in hand for these, but again its output had been limited by poor supplies of steel and fittings, and efforts had been concentrated on the export trade at the expense of the home trade; this, again, was rendered difficult by poor shipping facilities. The company's subsidiary, the Midland Railway Carriage & Wagon Co. Ltd., ceased to trade at December 31, 1947, as the whole of its fleet of privately-owned wagons which were let on hire had been taken over by the British Transport Commission on terms laid down by Parliament.

Rates Increase in U.S.A.—A further temporary 4 per cent. increase in rates, authorised by the Interstate Commerce Commission on April 19, came into force on the United States railways on May 6. It incorporates two earlier interim increases aggregating 20 per cent. (awarded in October and December, 1947), and adds the latest 4 per cent.

Beyer, Peacock & Co. Ltd.—An ordinary dividend of 5 per cent. together with a bonus of 1 per cent. are recommended for 1947 on the capital of the company in November, 1946. Last year, ordinary dividends were resumed with a distribution of 5 per cent. on account of 1946, but there was no bonus. Net profits for 1947 amounted to £200,892, compared with £149,127 in 1946.

Nyasaland Railways Limited.—At an extraordinary general meeting held on May 6, it was agreed unanimously to increase the company's borrowing powers to the nominal amount of its capital, in addition to the sum of £5,525,000. These powers are required in connection with expanding the services of the railway to keep pace with the economic development of the territory it serves. A note on the Nyasaland Railways and their connections appeared in our issue of February 13.

Dean & Dawson Limited Branch Office.—By the courtesy of the Glyndebourne Society, Dean & Dawson Limited has opened a public tourist office at 23, Baker Street, London, W.1 (telephone: Welbeck 0092). In addition to the usual travel facilities by the regular surface and air routes, it will specialise in festival business, particularly in co-operation with the Glyndebourne Society. Mr. H. C. Farncombe, for some years before the war the company's manager in Brighton, will be in charge of the new branch.

Southern Region June Excursions.—During the month of June the Southern Region will run excursions from London and many suburban stations to South Coast resorts. These have been arranged for Tuesdays, Wednesdays, and Thursdays, to different resorts. There will be also day excursions from most coastal and provincial stations to London on various weekdays throughout the month, in most cases with a special late return train at night, enabling visitors to get home after the theatre. A large number of mid-week excursions has been arranged also between provincial and coastal towns, giving a comprehensive programme of cross-country day excursions over the whole Southern Region.

Small Firms Asked to Stagger.—Latest move in the Central London staggering campaign is an appeal by the fourteen district committees to more than 1,500 firms with from 50 to 100 employees to stagger their hours of work. Proposals for changes in hours will be based on replies received, on the response to a questionnaire on present starting and finishing times, and on a study of traffic flows in each district. The target of the campaign is to double the number of workers now staggered, which totals 94,000; more than 100,000 workers are thought to be affected by the new appeal. The Ministry of Transport is reconsidering the question of changes in shop hours, which would not only keep 30,000 West End shop workers out of the peak hours, but also thousands of shoppers (see also editorial note on this subject).

A.E.C. and Maudslay Combine.—The link-up between the Associated Equipment Co. Ltd. and the Maudslay Motor Co. Ltd. and its associates may now be regarded as accomplished, since the holders of more than 90 per cent. of Maudslay ordinary shares have accepted the A.E.C. offer.

Zafra & Huelva Railway Bonds.—An order issued by the Spanish Ministry of Finance provides for the scrip of the first mortgage debentures of the Zafra & Huelva Railway Company being received for exchange without the obligation of depositing 1·61 pesetas per coupon, as had been required formerly.

Southern Region Posters.—The All-Pullman Thanet, Brighton, Devon and Bournemouth Belle trains are the subject of a quad royal poster now appearing at Southern Region Stations. Another new poster, advertising Normandy, Picardy, and Brittany, links up with the "Sands Across the Sea" guide, recently published for the first time since the war.

Valuation of Transport Securities.—After considering the evidence submitted at the hearing on May 19 of applications by the British Transport Commission, pursuant to Section 17 (3) of the Transport Act, 1947, the Transport Arbitration Tribunal has issued orders dated May 21, 1948, determining the value of the following securities specified in Part II of the Fourth Schedule to the Act:—

Name of body by which security was issued	Nature of security	Value
Southern Railway Company	Perpetual annuities	£31 15s. 0d. per annuity of £1 0s. 6d.
The Severn Commissioners	5 per cent. mortgages (1890 Act)	£111 13s. 9d. per mortgage of £100 nominal value

Applications for determination of the value of the 4 per cent. debenture stock (redeemable 1956 at 102 per cent.), 3½ per cent. perpetual debenture stock, and 6 per cent. non-cumulative preference stock of the Grand Union Canal Company, and the shares of the Oldham, Ashton-under-Lyne & Guide Bridge Junction Railway Company, also were heard on May 19, and the decision of the tribunal in regard to these securities will be announced later. A further sitting of the tribunal was held on May 26 to determine the value of the ordinary stock of the Oxford Canal Company.

Birmingham Railway Carriage & Wagon Co. Ltd.—Sir Bernard Docker, Chairman of the Birmingham Railway Carriage & Wagon Co. Ltd., said at the company's annual general meeting that he thought the year ended December 31, 1947, must go down in history as truly remarkable. At a time when increased production and exports were all-important, hours of work were reduced from 47 to 44 a week, and shortage of electrical power had caused stoppages of work and reduced output. Their supplies of steel were controlled very strictly, and were to be reduced this year despite the fact that British steel works were producing record outputs. He often wondered where this record steel tonnage was going, and after two years' experience of the new order of planning, it was remarkable that their supply problems, instead of easing up, were growing greater daily. He could not say that he had been impressed by the present method

OFFICIAL NOTICES

None of the vacancies on this page relates to a man between the ages of 18 and 50, inclusive, or a woman between the ages of 18 and 40, inclusive, unless he, or she, is excepted from the provisions of the Control of Engagement Order, 1947, or the vacancy is for employment excepted from the provisions of that Order.

WANTED.—5-ton Loco. Steam Crane, 30-40-ft. jib, Smith preferred.—Reply to Box 72, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

WANTED.—Steam Locomotive, standard gauge, 14-in. cyls., 160-lb. w.p.—Details, date of make, etc., to Box 73, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

COMPANY dealing in Engineering Specialities (Railway and Marine) requires an Assistant Secretary. Applicant must be qualified to superintend office in Westminster.—Box 75, *The Railway Gazette*, 33, Tothill Street, Westminster, S.W.1.

CHIEF DRAUGHTSMAN (Civil Engineering) required for Chief Engineer's Department of British Railway Company operating in Chile and Bolivia. Salary £750, rising to £950 p.a. Free quarters, passages, allowances, etc. Write with full details of qualifications and experience to Box 2279, c/o CHARLES BARKER & SONS LTD., 31, Budge Row, London, E.C.4.

STATION DESIGN. A striking example of modern British practice at the important wayside station of Luton. Reprinted from *The Railway Gazette*, July 7, 1944. *Price* 1*s*. *Post free* 1*s*. 2*d*.

His Majesty's Colonial Service

THE COLONIAL ENGINEERING SERVICE

APPLICATIONS are invited for the post of Chief Draughtsman, Nigerian Railways. Candidates, who must be Associate Members of the Institute of Mechanical Engineers, should have served an apprenticeship in the works of a Home Railway or a firm of locomotive builders and have had 8 to 10 years' experience in a Locomotive Drawing Office at home or in the Drawing Office of a Colonial Railway. Carriage and Wagon Drawing Office experience in addition is highly desirable. They must be thoroughly conversant with modern locomotive practice, preparation of designs, detail drawings, standardisation specification and indents; also with tools and fixtures for the manufacture of Locomotive Carriage and Wagon spares in quantities. The duties of the post include the control and training of a staff of African draughtsmen and the supervision of a scheme for the training of African workshop apprentices.

Candidates must be British subjects, physically fit, and between the ages of 32 and 36. Appointment will be on probation for permanent and pensionable employment within the gross incremental salary scale £970 to £1,300 per annum. Partly furnished Government quarters are provided, if available, at a rent of £90 per annum and free first class passages for the officer and, if married, for his wife, once each way each tour. Home leave on full pay is granted after tours of 18 months at the rate of 7 days for each month of resident service.

Intending applicants should write at once to the DIRECTOR OF RECRUITMENT (COLONIAL SERVICE), 15, Victoria Street, London, S.W.1, giving brief details of age, qualifications and experience.

Crown Agents for the Colonies

APPLICATIONS from qualified candidates are invited for the following post:—

TRAFFIC INSPECTOR required by the Government of Nigeria for the Railway Department for one tour of 18 to 24 months, with possible permanency. Salary and expatriation allowance £600, rising to £800, a year. Outfit allowance £60. Free passages. Candidates, age 23 to 35, must have had experience on a home railway of goods and passenger station work and accounts, telegraph offices and marshalling yards, and must be qualified in train working under the absolute block system and in railway signalling. Apply at once by letter, stating age, whether married or single, and full particulars of qualifications and experience, and mentioning this paper, to the CROWN AGENTS FOR THE COLONIES, 4, Millbank, London, S.W.1, quoting M/N/17525 (3E) on both letter and envelope.

LOCOMOTIVE Manufacturers' Association of Great Britain invite applications for the appointment of Overseas Representative from candidates of British nationality possessing high technical qualifications as Locomotive Engineers, and with administrative commercial experience. The person appointed will be required to travel extensively, probably spending periods of several months abroad, but with visits home for consultations. He must be accustomed to dealing with matters of policy with, *e.g.*, heads of Government Departments, and to forming appreciations and making reports, also he should be in a post at present or lately carrying not less than £1,000 p.a. Applications giving full details of education, technical training and qualifications, and experience, also stating age and salary required, should be addressed to THE DIRECTOR, L.M.A., 82, Victoria Street, S.W.1.

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of control and interference. Their industry was one where a high proportion of export work was being done with hard currency countries, and they were doing their utmost to maintain and strengthen those overseas connections.

Eastern Bengal Railway Company.—It has been notified that on March 31, 1948, a total sum of £1,176,799 17s. 9d. was invested for the purpose of providing a sinking fund in respect of the annuities class "B."

Craven Bros. (Manchester) Limited.—A net profit of £31,376 is shown for 1947, after providing for all expenses, including depreciation and taxation. A final ordinary dividend of 10 per cent. is recommended, making 15 per cent. for the year, as against the total dividend of 20 per cent. for 1946, when the net profit was £43,674.

Railway Benevolent Institution.—The ninetieth annual meeting of members of the Railway Benevolent Institution will be held at Euston Station (Room 131), London, N.W.1, on June 30 next at 4 p.m., to receive the report of the board of management and transact the ordinary business of the Institution. The board will appoint to contingent annuities 60 widows, and eight members in the Officers' Department, and 638 widows and 274 members in the Servants' Department, being applicants in excess of the number to whom permanent annuities can be granted. There will be no ballot on this occasion.

Costa Rica Railway Co. Ltd.—In his speech at the annual general meeting of the Costa Rica Railway Co. Ltd. on December 18, 1947, the Chairman, Mr. H. C. Drayton, said that during the year under review the Northern Railway made a profit, before charging rental, of £54,000. The company took over this raliway in 1940, at which time there was a considerable export traffic in bananas to the United States. This traffic ceased when the United States entered the war, and at the present time was very small, but active steps were being taken to attract new traffic to the line. Its real future must depend, however, on banana exports, and they were hoping that these would revive, there being a great demand for them in the United States. The company's revenue for the year amounted to £13,000. After deducting first mortgage debenture interest and expenses, and appropriating £3,000 for the sinking fund committee, there was a debit balance carried forward of £241,000.

Second "Enterprise" Express for G.N.R.(I.).—A new train of coaches similar to those used on the Great Northern Railway "Enterprise" non-stop Belfast-Dublin express is nearing completion at Dundalk Works. They will go into service as a second "Enterprise" service on May 31. The original train was described in our issue of October 3, 1947.

Preservation of 82-Year-Old Locomotive.—We are informed officially that the former Metropolitan 4-4-0 tank locomotive "L45" has now been retired by London Transport after 82 years of unbroken service, and is to be preserved as an historical relic. Later, it will be placed on public exhibition. It may be recalled that an appeal for its preservation was published in our columns, and that the original drawing was reproduced in our issue of February 6.

Train Attacked in Hyderabad.—It is reported that when a Madras-Bombay mail train was ready to leave Ghangapur Station in the State of Hyderabad on May 22, a number of men prevented the station staff from giving the line clear signal to the driver. They are then said to have attacked passengers in the front coach of the train with sticks and knives, but order was restored by the staff at the station. The incident resulted in trains from Madras to Bombay being cancelled on May 23, and it was announced by the Government of India that escorts of troops would accompany all trains passing through the State in future.

Trains Delayed by Electricity Failure.—Two breakdowns of the electricity supply in Southern England on May 23 caused interruption to train services. In the earlier failure, certain underground trains on the Central Line of London Transport were unable to proceed, and traffic stopped on the Southern Region between Brighton and Coulsdon for more than 1½ hr. Later in the day, a further failure resulted in delays after 9 p.m. between Coulsdon and the coast, near Woking, and from St. Mary Cray to Gillingham, Sevenoaks and Maidstone, as a result of signals being affected. The signal lights were restored by 10 p.m.

Derwent Valley Light Railway Company.—Total railway traffic receipts for 1947 were £12,314, as against £12,051 in the preceding year. Miscellaneous items produced £319, and revenue from the collection and delivery of parcels and goods amounted to £1,160, giving total gross receipts of £13,793. Expenditure amounted to £14,889, so that net receipts showed a deficit of £1,096. In 1946, there were gross receipts of £13,105 and expenditure of £16,073, resulting in a deficit of £2,968 on railway working. Receipts from other items in 1947 gave a final net revenue for the year of £3,888, comparing with £7,270 in the previous year. After adding the balance brought forward, and deducting fixed charges, the sum of £4,544 is available. The directors recommend dividends of 5 per cent. on the preference and ordinary shares, which will leave a balance of £494 to be carried forward.

Anglo-Brazilian Trade Agreement Signed.—The negotiations which have been proceeding in Rio de Janeiro since the middle of February between representatives of the Government of Brazil and a United Kingdom Trade & Financial Mission, headed by Sir John Wise, have been concluded successfully, and agreements on trade and payments, including the disposition of Brazil's accumulated sterling balances, were signed in Rio de Janeiro on May 24 by the Brazilian Minister for Foreign Affairs, Dr. Raul Fernadez; the Brazilian Minister of Finance, Dr. Correa E. Castro; H.M. Ambassador, Sir Nevile Butler; and Sir John Wise. It was agreed that all payments between Brazil and the sterling area should continue to be settled in sterling, and that it was to the advantage of Brazil and the United Kingdom to promote the maximum possible movement of goods and financial payments between Brazil and the United Kingdom, and Brazil and the sterling area as a whole, consistent with maintenance of a reasonable degree of equilibrium in sterling payments in both

directions. In particular, the traditional export of coal from the United Kingdom to Brazil will be resumed, the agreement providing for the supply of 500,000 tons during 1948. Agreements have been formalised for continued use of the accumulated Brazilian sterling balances, now reduced to approximately £50 million, for certain classes of capital payments, including the repatriation of Brazilian sterling loans and of such British-owned railway and utility undertakings in Brazil as the Government of Brazil may wish to acquire. Releases from accumulated balances to current account have been fixed at a maximum of £10 million over four years ending April, 1951.

Alfred Herbert Limited.—A final tax-free ordinary dividend of 10 per cent. has been recommended for the year to October 31 last, making a total of 20 per cent. In the preceding year, the company paid a dividend of 11 per cent., tax free, together with a special capital dividend of 9 per cent. Net profits, after taxation, were £532,685 for the year, as against £362,741 in 1945-46.

Beira Railway Co. Ltd.—Gross revenue of the Beira Railway Co. Ltd. for 1947 was stated by the Chairman, Mr. Arthur E. Hadley, in his speech at the company's general meeting to be some £217,000 higher than in the previous year. This was due mainly to imports being largely increased. The accounts showed, however, that higher working costs and provision for taxation absorbed the increased revenue, with the result that the final balance on profit and loss account actually was some £8,000 less than in 1946. In view of the greatly increased tonnage carried, he did not consider the rise in costs unreasonable, since the percentage of operating expenditure to gross receipts was greatly reduced. Their line continued to be operated by Rhodesia Railways Limited, the whole of whose capital had been acquired by the Southern Rhodesian Government since their last meeting. Their directors had been in close contact with the Southern Rhodesian and Portuguese Governments, with whom discussion of the position thus created was still proceeding.

British Electric Traction Co. Ltd.—Revenue for the year ended March 31, 1948, amounts to £1,206,288, compared with £823,261 for the year ended March 31, 1947. After deducting the general and other expenses, providing £472,000 for taxation (against £305,005) and allowing for debenture stock interest (unchanged), there remains for appropriation (subject to audit) the sum of £574,588, compared with £365,992 for the previous year. The Directors recommend that the following final dividends for the year be paid, less income tax, at the standard rate, on June 19, 1948, to stockholders whose names appear on the register on May 19, 1948; 5 per cent. on the participating preference stock (making, with the interim dividend of 3 per cent. already paid, 8 per cent. for the year); 4 per cent. on the preferred ordinary stock (making, with the interim dividend of 4 per cent. already paid, 8 per cent. for the year); and 35 per cent. on the deferred ordinary stock (making, with the interim dividend of 15 per cent. already paid, 50 per cent. (same) for the year). The balance of £267,415 (last year, £58,819) is to be transferred to undivided profits account. The annual general meeting will be held at Winchester House, Old Broad Street, London, E.C.2, on June 18.

Railway Stock Market

Earlier in the week caution was shown in stock markets, awaiting developments in the Palestine situation. British Funds failed to keep best levels, but were again higher on balance. Now that the bulk of the Argentine railway pay-out money has been reinvested, the question being asked in the City is whether gilt-edged can maintain recent gains. British Transport 3 per cent. stock (1978-88) was "ex" its first interest payment at 96¼xd. Electricity 3 per cent. stock, after touching 99⅛, the highest since dealings began in April, eased to 99½. Markets generally were still inclined to take their cue from gilt-edged, and foreign railway stocks were easier, including Brazil rails, the latter reflecting disappointment that the Anglo-Brazil pact does not specify moves for acquisition of British-owned railway and utility companies.

Nevertheless, it is assumed generally that now the Anglo-Brazil agreement has been signed, payment of the long-awaited purchase money for the railway will be made to the San Paulo company. San Paulo ordinary stock, after changing hands over 190, eased to 189, although the market is assuming that a total of at least £200 per £100 of stock is likely for stockholders on the basis of the amount the company is to receive for the railway and the sum that can be expected reasonably for other assets. Leopoldina receded to 12½, the preference stock to 43½, and the debentures to 77, while Leopoldina Terminal debentures were easier at 72 and Great Western of Brazil ordinary shares lost 7s. 6d. at 65s.

The assumption in the market is that Brazil has by no means abandoned the policy of acquiring British-owned railway and utility companies operating in the Republic, but that decisions in respect of individual companies will have to be arrived at by separate negotiations. In any case it would seem that the companies will wait for the initiative to be taken by the Brazilian authorities. Movements in Uruguay rails were small. Central Uruguay ordinary was 11½ and the second debentures 80½. Antofagasta stocks came in for demand on latest reports regarding the nitrate industry's prospects of expansion, the ordinary being 13½ and the 5 per cent. preference 69. Nitrate Rails shares were marked up to 85s. Although uncertainty resulted from latest reports from Havana, United of Havana 1906 debentures have strengthened to 17½ at the time of writing.

Activity in Canadian Pacifics again has been a feature, but after changing hands up to close on 27, the price came back to 25¾. The preference stock was 84½ and debentures 111½. Manila Railway preference were 10s. 4½d. and the "A" debentures 98. Beira Railway bearer shares changed hands around 56s. 6d. The expected issue by Nyasaland Railways is £1,600,000 first debenture stock, which will carry 3½ per cent. interest. Issue price will be 98½ and redemption dates 1968-78. Holders of the existing 5 per cent. "A" debentures will be offered conversion into the new stock, and the issue will provide nearly all the £1,460,000 needed for modernisation of equipment to bring the railway up to date.

Further gains have been established by shares of road transport companies, the market being hopeful of news before long of the various negotiations being carried out with the British Transport Commission. Iron and steel shares have been firm despite the nationalisation threat. Shares of locomotive builders and engineers have been steady. North British Locomotive changed hands around 25s. 9d. and Vulcan Foundry improved to 28s., while Charles Roberts were active around £7⅝ and elsewhere, T. W. Ward were 64s. 9d. and G. D. Peters 5s. shares marked 17s. 4½d. A big demand was shown for the 1,000,000 4 per cent. cumulative redeemable preference shares of £1 each in British Timken, offered at 21s.

Traffic Table of Overseas and Foreign Railways

	Railways	Miles open	Week ended	Traffics for week: Total this year	Traffics for week: Inc. or dec. compared with 1945/46	No. of week	Aggregate traffics to date: Total 1947 8	Aggregate traffics to date: Increase or decrease
				£	£		£	£
South & Central America	Antofagasta ...	834	16.5.48	50,580	+ 10,300	20	1,028,050	+ 259,360
	Bolivar ...	174	Apr., 1948	$80,579	− $28,757	17	$374,821	− $74,827
	Brazil ...	—	—	—	—	—	—	—
	Cent. Uruguay	970	15.5.48	44,557	+ 26,191	46	1,663,414	− 56,081
	Costa Rica ...	262	Mar., 1948	25,390	− 7,138	39	292,351	+ 39,451
	Dorada ...	70	Feb., 1948	16,700	− 12,900	9	39,800	− 20,500
	G.W. of Brazil	1,030	15.5.48	31,100	+ 5,700	20	724,800	+ 20,700
	Inter. Ctl. Amer.	794	Feb., 1948	$1,144,611	− $1,242	9	$2,402,164	+ $74,903
	La Guaira ...	22¾	Apr., 1948	$115,893	+ $13,925	18	$407,532	− $49,511
	Leopoldina ...	1,918	8.5.48	44,971	− 16,006	19	1,005,427	− 190,564
	Midland Uruguay	319	Mar., 1948	16,928	− 149	39	162,099	+ 11,210
	Nitrate ...	382	15.5.48	11,779	+ 2,023	20	111,140	+ 30,955
	N.W. of Uruguay	113	Mar., 1948	6,536	− 35	39	48,421	− 1,912
	Paraguay Cent.	274	14.5.48	G68,599	− G13,285	46	G3,020,612	+ G136,438
	Peru Corp.	1,059	Apr., 1948	199,283	+ 37,682	39	1,726,563	+ 208,348
	Salvador ...	100	Feb., 1948	c309,000	+ c65,000	35	c1,381,600	+ c252,600
	San Paulo ...	153¼	—	—	—	—	—	—
	Taltal ...	156	Apr., 1948	9,670	+ 6,285	44	80,080	+ 39,065
	United of Havana	1,301	15.5.48	100,646	− 2,344	46	3,506,124	+ 381,153
	Uruguay Northern	73	Mar., 1948	1,464	+ 159	39	10,584	− 743
Canada	Canadian National ...	23,535	Mar., 1948	9,662,750	+ 575,250	14	26,667,500	+ 1,598,500
	Canadian Pacific ...	17,037	Mar., 1948	7,086,500	+ 348,000	14	19,889,500	+ 1,552,500
Various	Barsi Light† ...	202	Apr., 1948	30,727	+ 1,432	4	30,727	+ 1,432
	Beira ...	204	Feb., 1948	111,097	+ 20,529	22	580,320	+ 134,080
	Egyptian Delta	607	31.3.48	20,147	+ 1,782	52	628,438	− 44,064
	Gold Coast	536	Mar., 1948	209,795	+ 15,052	52	2,015,891	− 193,445
	Manila ...	—	—	—	—	—	—	—
	Mid. of W. Australia	277	Mar., 1948	25,090	+ 5,591	39	209,473	+ 54,153
	Nigeria ...	1,900	Mar., 1948	401,873	+ 40,277	52	4,581,601*	+ 49,128
	Rhodesia ...	2,445	Sept., 1947	643,980	+ 102,833	52	6,787,603	+ 612,938
	South African	13,323	24.4.48	1,294,631	+ 124,928	4	4,534,649	+ 380,628
	Victoria ...	4,774	Jan., 1948	1,480,357	+ 164,562	31	—	—

† Receipts are calculated @ 1s. 6d. to the rupee * Aggregate figures to March 20